Metalex Manufacturing Inc.

Metalex

Certified ISO 9001 Quality Management
Veteran Owned Business 30 Plus Years

#1-- INSIDE Pkg - Cust Copy

Packing List# 38612 **Rel#** 1 **PAGE** 1
Metalex Job# 2006-5682

Ship To: STANFORD UNIVERSITY-SLAC
BUILDING 081, ROOM 118
2575 SAND HILL ROAD
MENLO PARK CA 94025

Date: 8/08/06
Ship Via:
PTA# _____
(prepaid shipments only)
BOL/Air Bill#
Prepaid: XXXXXXX **Collect:**
Weight: **Ctns:** **Zone:**
Dimensions:

Attn: BEN POLING 408-250-6877
Customer PO: 5A10359

P.O. Item No.	Qty Ordered	Qty Shipped	Qty Back Ordered	Description
004	15	1	14	LCLS UNDULATOR MAIN ASSY ANL PART/REVISION NUMBER: L143-112000-05 SLAC PART NUMBER: SA-381-001-35 ASSEMBLY SERIAL NUMBER: 5A10359-04 STRONGBACK SERIAL NUMBER: 5A0699-04 -CERTIFICATE OF CONFORMANCE, INSPECTION DATA, AND CERTIFICATIONS ENCLOSED. ANL SOURCE: SIGNATURE: Glen S. Lawrence DATE: 8/8/06 PRINT: Glen S. Lawrence STAMP: 8 Aug 2006 /Emil Trachtenberg/ 8 Aug 2006 8/8/06

Received By:

Printed Name _____ Signature _____ Date _____

MX3006 (10/02)

Metalex Manufacturing Inc.
5750 Cornell Road • Cincinnati, OH 45242
Phone (513) 489-0507 • Fax (513) 489-1020
EMAIL: metalex@metalexmfg.com

Metalex
Customized Machinery and Parts
ISO 9001:2000 and AS9100 Certified
Veteran Owned Business 30 Plus Years

CERTIFICATE OF CONFORMANCE

Date: 08/08/2006
Customer: Argonne National Laboratory
9700 S. Cass
Argonne, IL 60439

Attention: Michael Oprondek

Metalex Job# 2006-5682
Purchase Order # 5A10359
MX Packing List # 38612

Metalex certifies that all material, processes, procedures, and dimensions are as called for on the purchase order, drawings, and/or amendments supplied by you.
All information concerning this part or parts, units and/or assemblies are on file at Metalex Manufacturing, Inc.

ITEM	QTY	PART NUMBER	REV	PART NAME	ID # *
004	1	L143-112000	05	LCLS Undulator Main Assembly	5A10359-04

*IDENTIFICATION NUMBER INCLUDES SERIAL #, HEAT #, AND/OR LOT #.

COMMENTS: "First Article" submitted on Metalex Shipper #37728 dated 3/31/06 (Job#05-4718).

SLAC Part Number: SA-381-001-35

Assembly Serial Number: 5A10359-04

Metalex Representative Signature | TODD CAUDILL MTX QC 12 Print Name | 8/8/2006 Date

MX1011 (05/05)

Metalex
Manufacturing
Inc.

Metalex Manufacturing
L143-112000 BOM/ASSY Undulator
Purchase Order No. 5A10359

LCLS Undulator L143-00076 Assembly Procedure

Assembly:

ANL Part/Revision Number: L143-112000-~~01~~ - 05 RGS 8/07/06
SLAC Part Number: SA-381-001-35
Assembly Serial Number: 5A10359-04

Dimensional Inspection Requirements:

20. *Dimensionally inspect overall height of the magnet assemblies to verify they are within specification before installation into the strongback.*

Dimension: 78mm (3.071")

L143-110800 Upper Left Magnet Structure Assembly	Actual: 77.99-78.01
L143-111000 Upper Middle Magnet Structure Assembly	Actual: 77.99-78.01
L143-111200 Upper Right Magnet Structure Assembly	Actual: 77.99-78.01
L143-110900 Lower Left Magnet Structure Assembly	Actual: 77.99-78.01
L143-111100 Lower Middle Magnet Structure Assembly	Actual: 77.99-78.01
L143-111300 Lower Right Magnet Structure Assembly	Actual: 77.99-78.01

Temperature at start of inspection: 22.2 Deg.C

Temperature at end of inspection: 22.2 Deg. C

Verification of completion of assembly procedure:

Completed By: Thomas P. Becker **Date:** 8.7.06
Thomas P. Becker

5750 Cornell Road • Blue Ash Industrial Park • Cincinnati, OH 45242
Phone (513) 489-0507 • Fax (513) 489-1020

Metalex Manufacturing
L143-112000 BOM/ASSY Undulator
Purchase Order No. 5A10359

LCLS Undulator Training Record

L143-00066 Statement of Work for LCLS Undulator Main Assembly

Section 4.1.3.2 Training of Assembly Personal

Requirements:

1.) Review and understand L143-00066 Statement of Work

2.) Review and understand L143-112000 Drawing Package

3.) Review and understand L143-00076 Assembly Procedure

4.) Review and understand Magnet Installation Procedure ANL video

5.) Review and understand Magnet Structure Installation ANL video

Completed By: Thomas P. Becker **Date:** 2.27.06
Thomas P. Becker

5750 Cornell Road • Blue Ash Industrial Park • Cincinnati, OH 45242
Phone (513) 489-0507 • Fax (513) 489-1020

Metalex Manufacturing
L143-112000 BOM/ASSY Undulator
Purchase Order No. 5A10359

LCLS Undulator Training Record

L143-00066 Statement of Work for LCLS Undulator Main Assembly

Section 4.1.3.2 Training of Assembly Personal

Requirements:

1.) Review and understand L143-00066 Statement of Work

2.) Review and understand L143-112000 Drawing Package

3.) Review and understand L143-00076 Assembly Procedure

4.) Review and understand Magnet Installation Procedure ANL video

5.) Review and understand Magnet Structure Installation ANL video

Completed By: Rob Schuermann **Date:** 02/27/06
ROB SCHUERMANN

5750 Cornell Road • Blue Ash Industrial Park • Cincinnati, OH 45242
Phone (513) 489-0507 • Fax (513) 489-1020

Metalex Manufacturing
L143-112000 BOM/ASSY Undulator
Purchase Order No. 5A10359

Assembly:

ANL Part/Revision Number: L143-112000-05
SLAC Part Number: SA-381-001-35
Assembly Serial Number: 5A10359-04

LCLS Undulator photographs per L143-00066 Sect. 4.1.3.3

L143-110800-02 Upper Left Magnet Structure Assembly

L143-110900-02 Lower Left Magnet Structure Assembly

L143-111000-102 Upper Middle Magnet Structure Assembly

L143-111000-202 Upper Middle Magnet Structure Assembly

L143-111000-302 Upper Middle Magnet Structure Assembly

L143-111100-102 Lower Middle Magnet Structure Assembly

L143-111100-202 Lower Middle Magnet Structure Assembly

L143-111100-302 Lower Middle Magnet Structure Assembly

L143-111200-02 Upper Right Magnet Structure Assembly

L143-111300-02 Lower Right Magnet Structure Assembly

Rob Schuermann Date: 8/09/06

Rob Schuermann

5750 Cornell Road • Blue Ash Industrial Park • Cincinnati, OH 45242
Phone (513) 489-0507 • Fax (513) 489-1020

ARGONNE NATIONAL LABORATORY

ACCEPTANCE CRITERIA LISTING

2. PAGE ONE OF 1 3. ACL NO. E5-020020

4. ORIGINATOR'S NAME & DIVISION Glen Lawrence/XFD 5. PHONE 2-9298 6. DATE 1/20/2005

7. PART NO. & NAME L143-110700 LCLS Undulator Strongback 8. QUANTITY 40

9. FOR INSPECTION, DELIVER TO BLDG. NO. N/A DIVISION ATTN:

10. AFTER INSPECTION, DELIVER TO BLDG. NO. N/A DIVISION ATTN:

11. REFERENCES AND/OR REMARKS: Strongbacks are to be delivered to undulator assembly contractor by machining contractor Undulator assembly contractor shall inspect strongback prior to acceptance, Argonne National Laboratory shall review all certification and machining vendor 's reported and optionally shall do on-site inspections..

12 STEP NO.	13 INSPECTION/TEST REQUIREMENT	14 INSPECTION TEST LOCATION	18 ACCEPTED BY OR NONCONFORMANCE REPORT NO.	19 DATE
1	Visual inspection of part for shipping damage. A) Were critical surfaces protected per SOW L143-00030 Section 4.1.4? B) Is there any visible damage?	Undulator Ass'y Contractor	Ral Schm	8/07/06
2	Check Strongback is marked with serial number & part no.'s (ANL & SLAC) per SOW Section 4.1.3	Undulator Ass'y Contractor	Ral Schm	8/07/06
3	Check all accompanying Certifications have correct part Serial number.	Undulator Ass'y Contractor	Ral Schm	8/07/06
4	Check Material Certification for compliance with ASTM B381-03, Grade F2	Undulator Ass'y Contractor & ANL	Ral Schm	8/07/06
5	Check Forging Annealing Certification for annealing conformance to AMS-H-81200A, Table V, commercial Pure, Bars & Forgings, including. Note 8	Undulator Ass'y Contractor & ANL	Ral Schm	8/07/06
6	Check Rough Machining Anneal Certification for annealing conformance to AMS 2801B section3.2.9	Undulator Ass'y Contractor & ANL	Ral Schm	8/07/06
7	Check the strongback contractor's reported dimensional measurements against the part drawing.	ANL		
8	Verify the strongback critical dimensions as listed in the SOW section 4.5.2 are in compliance with the print.	Undulator Ass'y Contractor	Ral Schm	8/07/06
	* L143-112000-05			
	SA-381-001-35			
	SA 10359-04			

15. ORIGINATOR OF PLAN Glen Lawrence DATE 01/20/2005

16. PLAN REVIEWED/APPROVED BY DATE

17. QAR CONCURRENCE WITH PLAN DATE

Metalex
Manufacturing
Inc.

Metalex
Certified ISO 9001 Quality Management
Veteran Owned Business 30 Plus Years

#1-- INSIDE Pkg - Cust Copy

Packing List# 37025 Rel# 1 PAGE 1
Metalex Job# 2005-3802

Ship To: ARGONNE NATIONAL
LABORATORY
BLDG 201, OOF-PRO
9700 S CASS AVE.
ARGONNE IL 60439

Date: 11/29/05
Ship Via: REMAIN @ METALEX
PTA#
(prepaid shipments only)
BOL/Air Bill#
Prepaid: Collect:
Weight: Ctns: Zone:
Dimensions:

Attn: MICHAEL OPRONDEK
Customer PO: 5A06990

P.O. Item No.	Qty Ordered	Qty Shipped	Qty Back Ordered	Description
003	19	1	18	L143-110700 REV. 07 STRONBACK S/N: 5A06990-04 -CERTIFICATE OF CONFORMANCE, INSPECTION DATA, AND CERTIFICATIONS ENCLOSED. -REF: SDR'S #3801-001, #3801-004, & #3801-006 TESTING SURVEILLANCE BY ANL HAS BEEN WAIVED PER ATTACHED E-MAIL FROM MICHAEL OPRONDEK DATED 11/22/05.

Received By

Printed Name _____ Signature _____ Date _____

MX3006 (10/02)

www.metalexmfg.com
sales@metalexmfg.com

5750 Cornell Road Cincinnati, Oh 45242-2083
Phone (513) 489-0507 Fax (513) 489-1020

Metalex Manufacturing Inc.
5750 Cornell Road • Cincinnati, OH 45242
Phone (513) 489-0307 • Fax (513) 489-1020
EMAIL: metalex@metalexmfg.com

Metalex
Customized Machinery and Parts
ISO 9001:2000 and AS9100 Certified
Veteran Owned Business 30 Plus Years

CERTIFICATE OF CONFORMANCE

Date: 11/29/2005

Customer: Argonne National Laboratory
Bldg. 201, GCF-PRO
9700 S Cass Ave
Argonne, Illinois 60439

Attention: Michael Oprondek

Metalex Job# 2005-3802
Purchase Order # 5A06990
MX Packing List # 37025

Metalex certifies that all material, processes, procedures, and dimensions are as called for on the purchase order, drawings, and/or amendments supplied by you.
All information concerning this part or parts, units and/or assemblies are on file at Metalex Manufacturing, Inc.

ITEM	QTY	PART NUMBER	REV	PART NAME	ID # *
0002	1	L143-110700	07	Strongback	5A06990-04

*IDENTIFICATION NUMBER INCLUDES SERIAL #, HEAT #, AND/OR LOT #.

COMMENTS: "First Article" submitted on Metalex Shipper #36794 dated 10/17/05 (Job#05-3801).

Metalex is in compliance with Statement of Workscope Document No. L143-110700, Revision 5, dated 09/05/05.

Material from Heat Lot #G07B

Reference SDR# 3801-001 (Material Substitution), SDR# 3801-004 (Modification), & SDR# 3801-006 (Modification).

Testing Surveillance by ANL has been waived per attached e-mail from Michael Oprondek dated 11/22/05

Todd Caudill QE — Metalex Representative Signature

TODD CAUDILL MTX QC 12 — Print Name

11/29/2005 — Date

MX 0-11-05/051

Caudill, Todd

From: Schuermann, Rob
Sent: Tuesday, November 22, 2005 5:35 PM
To: Black, Katrina; Caudill, Todd; Hubbard, Bruce
Cc: Baldwin, Steve; Alford, Jim; Dufresne, Scott
Subject: FW: Metalex's notification for final inspection of Strongback serial number 5A06990-04 (MX Job# 3802)

ANL will not be coming in to witness Strongback inspections. We need to complete work scope and ship in place at Metalex. Final documentation should be submitted electronically and (2) hardcopies mailed in the same manner as the First Article Unit.

Thanks,

Rob

From: Oprondek, Michael T. [mailto:moprondek@anl.gov]
Sent: Tuesday, November 22, 2005 5:27 PM
To: Schuermann, Rob
Subject: RE: Metalex's notification for final inspection of Strongback serial number 5A06990-04.

Hi, Rob
The Inspection Plan that was previously accepted for the production strongbacks should be sufficient. Therefore, a rep from ANL will not attend on the 29th.
Thank you again for your help.

Michael Oprondek, Procurement Department
Argonne National Laboratory; operated for the
U. S. Department of Energy by the University of Chicago
phone 630 252 7069 fax 630 252 4517

From: Schuermann, Rob [mailto:schuermann@metalexmfg.com]
Sent: Tuesday, November 22, 2005 10:09 AM
To: Oprondek, Michael T.
Cc: Lawrence, Glen; tbarsz@anl.gov; Black, Katrina; Alford, Jim; Dufresne, Scott
Subject: Metalex's notification for final inspection of Strongback serial number 5A06990-04.

Mr. Michael Oprondek,

This email is Metalex's notification that final inspection of L143-110700 Strongback serial number 5A06990-04 is on schedule for Tuesday November 29th, 2005 as per the Production Program Schedule.

For planning purposes, please advise if a designated representative of ANL will be onsite at Metalex for witness of the dimensional inspection of Strongback serial number 5A06990-04 so that we can be proactive and schedule the appropriate resources in advance.

Please review and advise.

Thank you in advance for you support.

Rob Schuermann
Director, Technical Business Unit

11/29/05

METALEX MANUFACTURING INC.
5750 Cornell Road
Cincinnati, OH 45242
Phone: 513-489-0507
Fax: 513-489-1020
E mail: schuermann@metalexmfg.com

11/29/05

To METALEX MANUFACTURING INC
Address 7751 CORNELL ROAD
CINCINNATI, OH 45243
Attention Dept PURCHASING AGENT

ATI Wah Chang
Allegheny Technologies
P.O. Box 460
Albany, Oregon 97321-0136
(541) 926-4211 FAX (541) 967-6948

PRODUCT CERTIFICATION

METALEX
QA DEPT.
ACCEPTED
DATE 11/21/05
BY

IN REGARD TO YOUR:

Vendor Identification	Wah Chang
Purchase Order No.	88085-BL
Sales Order No.	127418
Item No.	1
Description	Titanium Grade 2 Billet
Dimensions	12.000-12.001" Dia x 124.50-134.75" L
Specifications	ASTM B381-05, AMS – 81220A and P.O.
Dated	September 15, 2005
Date Revised	November 11, 2005 to add part number to certification
Heat No.	G97B
Alloy	Ti-2
SFC No.	1306157
Quantity Shipped (pcs.)	3
Weight Shipped (lbs.)	7505
Length Shipped (ft.)	N/A
Part No.	8A06990-04, 8A06991-08, 8A06990-08

Processed and Heat Treated on SFC 1304159

Sub #3604, 3605, & 3604
SL-08
SL-08
SL-01
PART # 143-11-700

THE TEST REPORT FOLLOWS:

Material Condition: Forged, conditioned, annealed and machined.

INGOT CHEMISTRY IN PERCENT

Element	Alpha Spec.	Spec. Max.	TOP	MIDDLE	BOTTOM
C		0.08	0.01	0.009	0.01
Fe		0.30	0.05	0.06	0.05
H		0.015	0.001	0.001	0.001
N		0.03	0.007	0.008	0.006
O		0.25	0.15	0.14	0.15
OTHERS_EACH		0.1	<0.1	<0.1	<0.1
OTHERS_TOTAL		0.4	<0.4	<0.4	<0.4
Ti	BALANCE				

CERTIFICATE OF CONFORMITY

This is to hereby certify that the listed material has been processed, annealed and tested in accordance with the specifications noted in the Purchase Order.

Certified By: S. Gulvin, QA Specialist, [illegible]

Purchase Order No.: 55095-BL
Sales Order No.: 127415
Item No.: 1
Heat No.: G97B
SFC No.: 1325167

ATI Wah Chang
Allegheny Technologies
P.O. Box 460
Albany, Oregon 97321-0136
(541) 926-4211 FAX (541) 967-6948

Wah Chang is A Registered / Certified ISO 9001:2000 Company.

ROOM TEMPERATURE TENSILES (FOR INFO ONLY)

Test	Method	Offset	Gage	Units	Spec. Min.	Trans.
Tensile Strength	ASTM E8			Ksi	50	64.6
Yield Strength	ASTM E8	0.2%		Ksi	40	46.5
Elongation	ASTM E8			Pct	20	30
Reduction in Area	ASTM E8			Pct	30	55

METALEX
QA DEPT.
ACCEPTED
DATE 11/23/05
BY TC

HEAT TREAT PROCESS CERTIFICATION FORM

S.O. # N/A MOT # 43669 H Start Time: 23:15

Heat # G97B Date 8/10/05 Finish Time 07:15

Material ID's: A, B, C, D

Was the Lot Split? (yes) (no) (Circle one)

Furnace # 9 Size 13" (Rnc) (RCS) (Plate) (Rect.)

Heat Treated to Specification: AMS H-81200, Latest Revision

HEAT TREATING PROCEDURE:

STRESS RELIEVE 1100° 8 Ø

Anneal	Temp.	°F	Time at Temp.	Hrs.	mins.	To	Hrs.	mins.
Heat Soln Treat	Temp.	°F	Time at Temp.	Hrs.	mins.	To	Hrs.	mins.
Solution Treat	Temp.	°F	Time at Temp.	Hrs.	mins.	To	Hrs.	mins.
Duplex Anneal	Temp.	°F	Time at Temp.	Hrs.	mins.	To	Hrs.	mins.

Quench Media: (Circle One) Furnace Cool (Air Cool) (Fan Cool) (Water Quench)

Heat Treatment Performed By: [signature] 8/10/05

Date Operator Trained: N/A

Supervisor Review: [signature]

Quality Assurance Review:

METALLY CLEAN ACCEPTED DATE 8/10/05 BY TL MTX QC 12

HEAT TREAT CHARTS IN JOB #05-3611 FOLDER TL 10/18/05 MTX QC 12

QF 166-004 Rev. 0 4/28/03 Land on Mat/OMGFILE FORMS/QF 166-004 Rev. 2

HEAT TREAT PROCESS CERTIFICATION FORM

S.O.# N/A MOT # 43669H Start Time 07:45

Heat # G97B Date: 8·9·05 Finish Time: 20:05

Material ID's

A				
B				
C				
D				

Was the Lot Split? (yes) (no) (Circle one)

Furnace # 9 Size 15" (Rnd) (RCS) (Plate) (Rect.)

Heat Treated to Specification: AMS-H-81200, Latest Revision

HEAT TREATING PROCEDURE:

(Anneal)	Temp. 1250 °F	Time at Temp. 8 Hrs. 0 mins.	To 8 Hrs. 0 mins.
Beat Spin Treat	Temp. ___ °F	Time at Temp. ___ Hrs. ___ mins.	To ___ Hrs. ___ mins.
Solution Treat	Temp. ___ °F	Time at Temp. ___ Hrs. ___ mins.	To ___ Hrs. ___ mins.
Duplex Anneal	Temp. ___ °F	Time at Temp. ___ Hrs. ___ mins.	To ___ Hrs. ___ mins.

Quench Media: (Circle One) Furnace Cool (Fan Cool) (Fan Cool) (Water Quench)

Heat Treatment Performed By: [signature]

Date Operator Trained: N/A

Supervisor Review: [signature]

Quality Assurance Review: ___

METALEX
DASEPT
ACCEPTED
DATE 9/4/05
BY TC

HEAT TREAT
CHARTS IN
JOB # 05-3011
FOLDER TC
10/3/05

CF 166-004 Rev. 2 (4/28/03) Location Nos.: CMCFILE/FORMS/CF 166-004 Rev. 2

Caudill, Todd

From: Lawson, Brian
Sent: Wednesday, October 12, 2005 6:05 PM
To: Caudill, Todd
Subject: FW: Missing certifications

Todd, Are you okay with this?

Brian R. Lawson

From: Anthony, Scott [mailto:Scott.Anthony@WahChang.com]
Sent: Wednesday, October 12, 2005 5:09 PM
To: Lawson, Brian
Cc: Brown, Dave
Subject: RE: Missing certifications

I checked with QA, and the reason that these items were not included is that this material is the same heat as the first piece that we sent you. They were processed in the same furnace runs. So, the certs and charts that were provided with first shipment (the single piece that went out in late August) are the same certs and charts that apply to these three pieces. If you need additional copies, we can furnish those. I'm sorry for the confusion. Let me know if you are okay using what you have, or want another set.

Scott Anthony
Sr. Sales Representative
ATI Wah Chang
Phone: 541-812-7119
Fax: 541-967-6094

From: Lawson, Brian [mailto:lawsonb@metalexmfg.com]
Sent: Wednesday, October 12, 2005 12:32 PM
To: Anthony, Scott
Subject: Missing certifications

On this lot of material we are missing heat treat certifications for anneal and stress relieve and heat treat charts

Brian R. Lawson

ATI Wah Chang

ATTACHMENT No. 2
Wah Chang / Kach Machine Works P.O. 180122
CERTIFICATE OF CONFORMANCE
pieces [redacted] sfc 1304189

Kach Machine Works hereby certifies that all conversion processing for the above Purchase Order conforms to material and/or manufacturing requirements indicated in the drawing or specifications, as applicable. Inspection and/or test reports substantiating conformity are attached.

METALEX
QA DEPT.
ACCEPTED
DATE 11/23/15
BY

Any exceptions, deviations, or non-conformances are listed below.
(Attach additional sheets if necessary.)

NONE

MAN VAN NGUYEN
Name

Foreman
Title

KACH MACHINE WORKS, Inc.

[illegible] BALLAST STREET • SWAN ISLAND • PORTLAND, OREGON [illegible]

QUALITY CONTROL DIMENSION INSPECTION REPORT

CUSTOMER: WAH [illegible] DATE: 08-26-05

PART NAME: 12 x 35 long Shaft PART NO.: 5A-06990-04

P.O. NO.: 1 [illegible] NO. PCS.: 1 I.D. NO.: SFC 1304189-C

MATERIAL: Titanium HEAT NO.: G97B

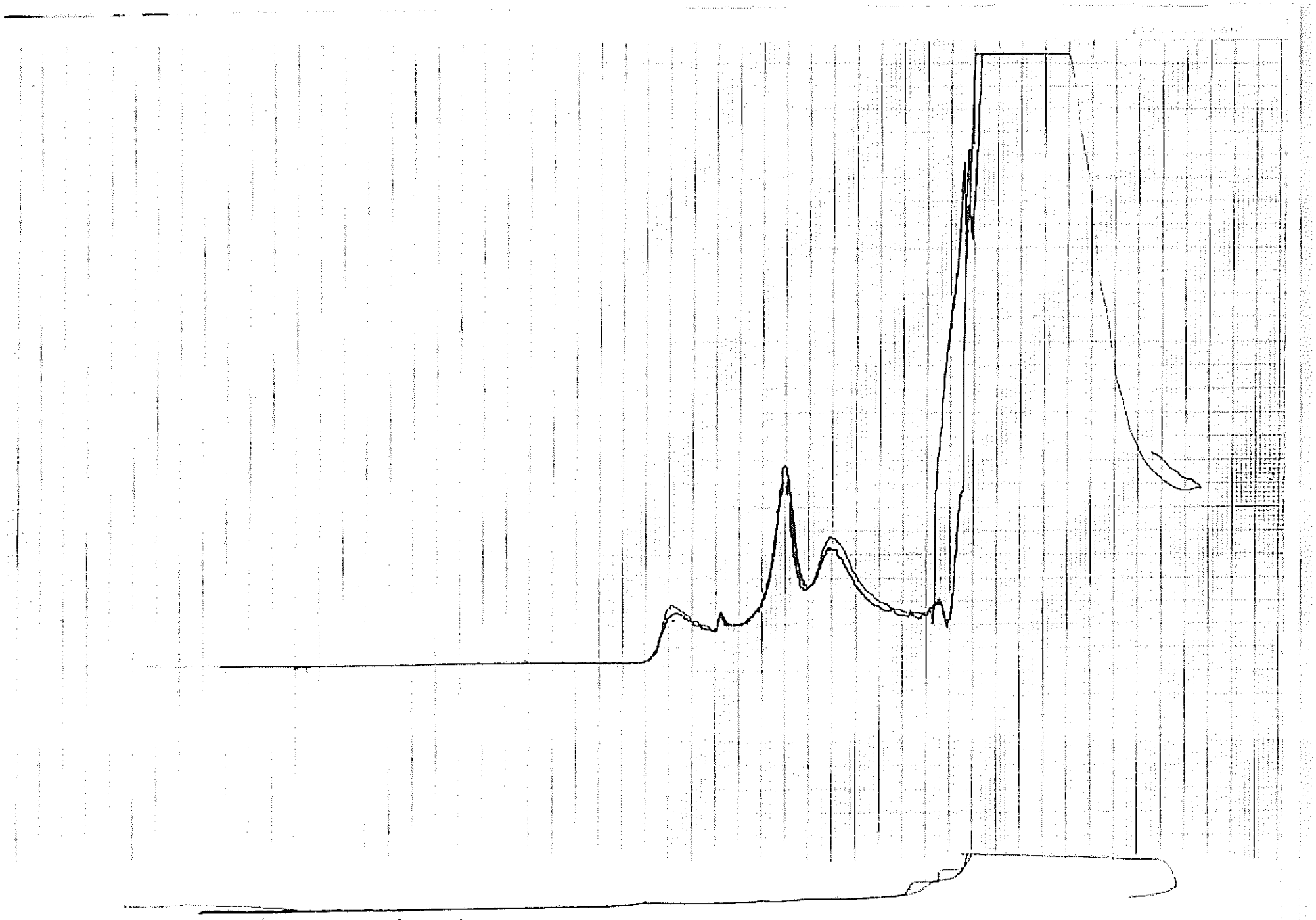
DRAWING NO.: NONE REVISION:

	Given	Actual
OD	12.060"	12.052"
	12.020"	12.054"
LENGTH	134 3/4, 134 1/2	134 3/4"
Run out		None
Finish	125	100

METALEX
QA DEPT.
ACCEPTED
DATE 11-8-05
BY [illegible]

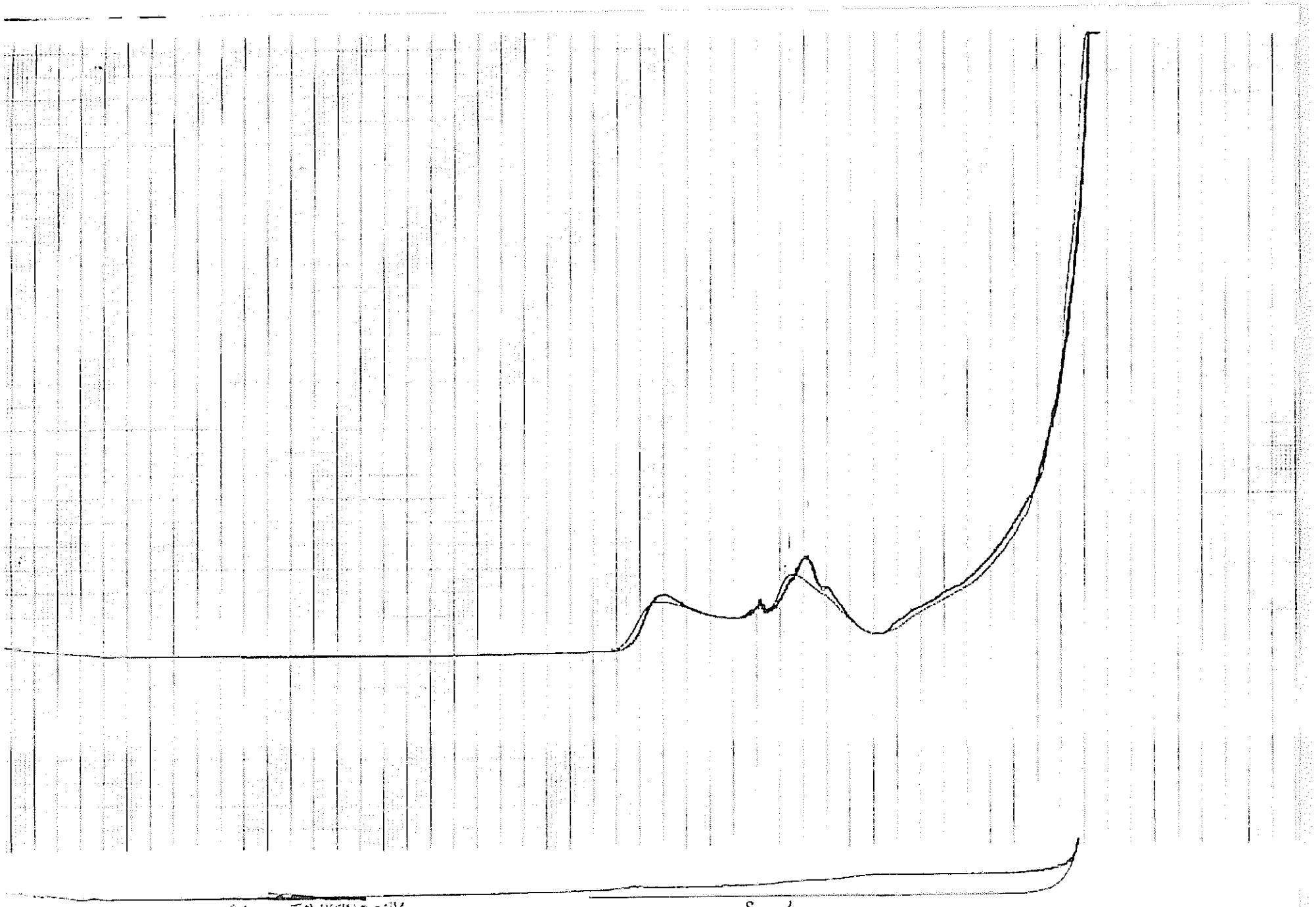
REMARKS:

[illegible]
INSPECTOR



S/N 5190690-04
Part # L143-110700
10-17-05

Job # 3802
After part machined
CIP # 50



O/N - 5A00790-04

Job#3802 PART# C143-110700

~~10-20-05~~ S.W 10-20-05

(SCAN BEfore machined) Steve Wallace 10-12-05

OPP# 20

JOB # 3802

SUPPLIER DISPOSITION REQUEST (SDR)

(For ANL-311 includes instructions and distribution sheet)

Page 1 of 1

(CHECK ONE)

☑ 1A. Deviation Request

☐ 1B. Nonconformance Action Request

2. SDR No. 3801-001

3. SDR Date 05/23/2005

4. Supplier Name, Address, Telephone, Fax

Metalex Manufacturing Inc.
5760 Cornell Road
Cincinnati, Ohio 45242
513-489-0507
513-489-1020

5. Purchase Order No. 5A06990

6. Related Documents

6.1 Document No. L143-00030 Date

7. Qty	8. Describe Nonconforming Condition	9. Identify Requirement	10. Cause & Corrective Action
	1.) Document No. L143-00030 Section 4.1.1 has the forging being made per ASTM B 381-03. The current revision level of this specification is ASTM B 381-05. Metalex supplier, ATI Wah Chang would like to work to the latest revision.	Metalex request direction from ANL on what revision applies to this contract. Metalex supplier, ATI Wah Chang needs this clear direction as soon as possible to continue with acceptance of the order.	

SUPPLIER'S COMMENTS (IF YES, EXPLAIN)

11. Affects Form, Fit or Function

☐ Yes ☑ No

12. Affects Price

☐ Yes ☑ No

Rick Schuermann - Director, Tech. Business Unit - 06/23/05

[signature] 06/23/05

13. SUPPLIER REPRESENTATIVE - TITLE - DATE

13. Affects Delivery

☑ Yes ☐ No This will hold up material supplier.

14. Recommended Disposition and Comments:

13. ANL REPRESENTATIVE - DATE

17. ANL Disposition and Remarks: Accept ASTM B381-05 as equivalent to ASTM B381-03 for our purposes on this procurement

18. Approved

[signature] 7/1/05 — TECHNICAL REPRESENTATIVE - DATE

[signature] 7/1/05 — QUALITY ASSURANCE REPRESENTATIVE - DATE

[signature] — PROCUREMENT REPRESENTATIVE - DATE

JOB#3802

SUPPLIER DISPOSITION REQUEST (SDR)

Form ANL-311 includes instructions and continuation sheet.

Page 1 of 1

CHECK ONE:

☑ 1A Deviation Request

☐ 1B Nonconformance Action Request

2. SDR No. 3801-004

3. SDR Date 08/17/2005

4. Supplier Name, Address, Telephone, Fax

Metalex Manufacturing Inc
5750 Cornell Road
Cincinnati, Ohio 45242
(513) 489-0507 phone
(513) 489-1020 fax

5. Purchase Order No. 5A06990

6. Related Documents

6.1 ANL drawing L140-110700 Rev 4 Date

7. Qty.	8. Describe Nonconforming Condition	9. Identify Requirement	10. Cause & Corrective Action
	1) Along with this form, Metalex has attached a sketch named SDR 3801-004, pages 1 and 2. This sketch outlines some additional "for manufacturing process only" holes that Metalex is requesting permission to add to the Strongback details. On each end of each part, (4) 5/8-11 tapped holes, and (2) .6250" diameter dowel pin holes are requested to be added for internal use at Metalex.	Metalex requests direction from ANL on this item	

SUPPLIER'S COMMENTS (IF YES, EXPLAIN)

11. Affects Form, Fit or Function

☐ Yes ☑ No

12. Affects Price

☐ Yes ☑ No

Rob Schuermann - Director - Tech. Business Unit - 08/17/05

[signature] 8/17/05

15. SUPPLIER REPRESENTATIVE - TITLE - DATE

12. Affects Delivery

☐ Yes ☑ No Only if this is unresolved when raw material is arrives

14. Recommended Disposition and Comments:

16. ANL REPRESENTATIVE - DATE

17. ANL Disposition and Remarks: The requested modifications for internal Metalex use are allowed.

18. Approved

[signature] 8-23-05

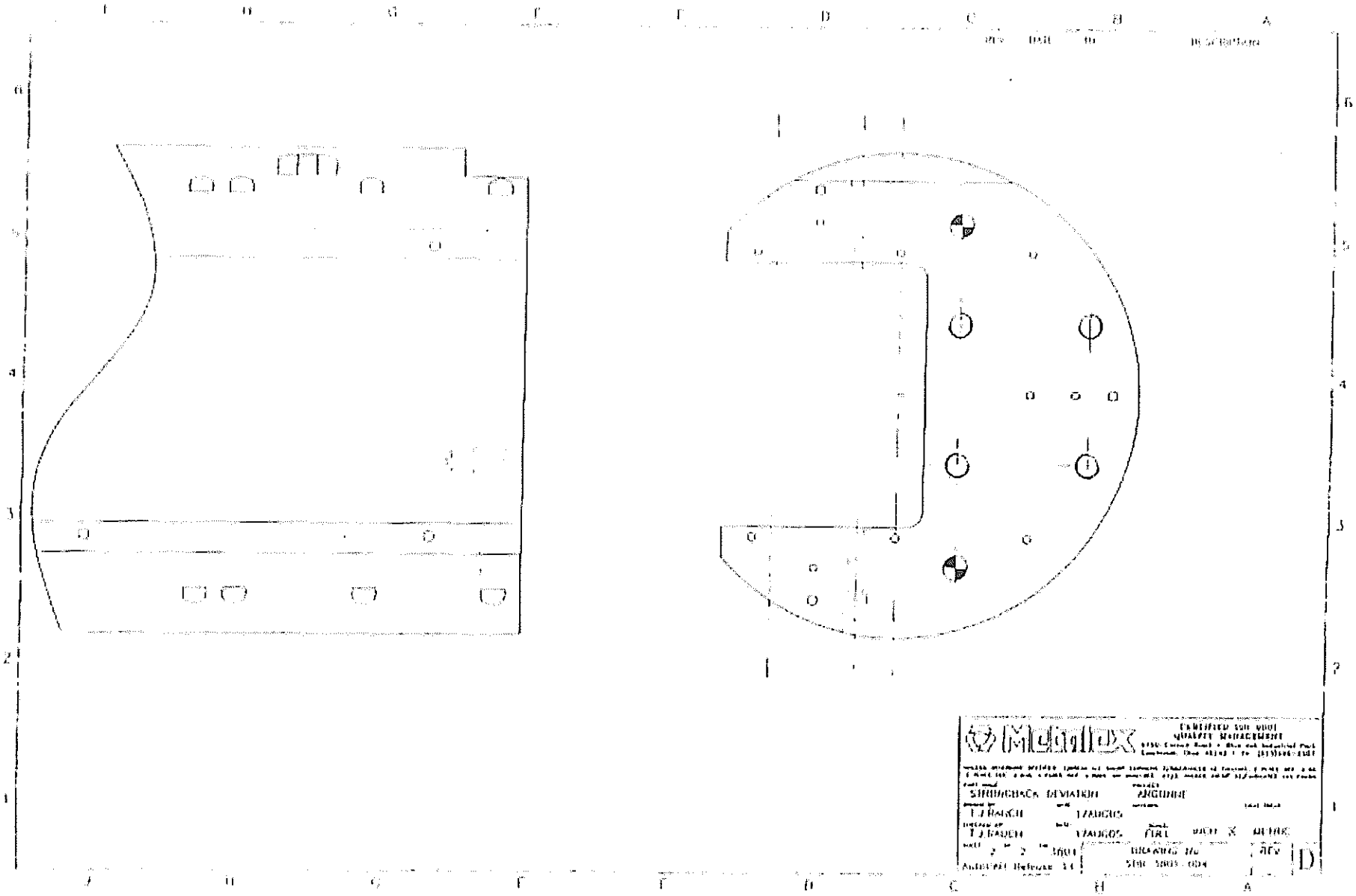
FINANCIAL REPRESENTATIVE - DATE

[signature] 8/25/05

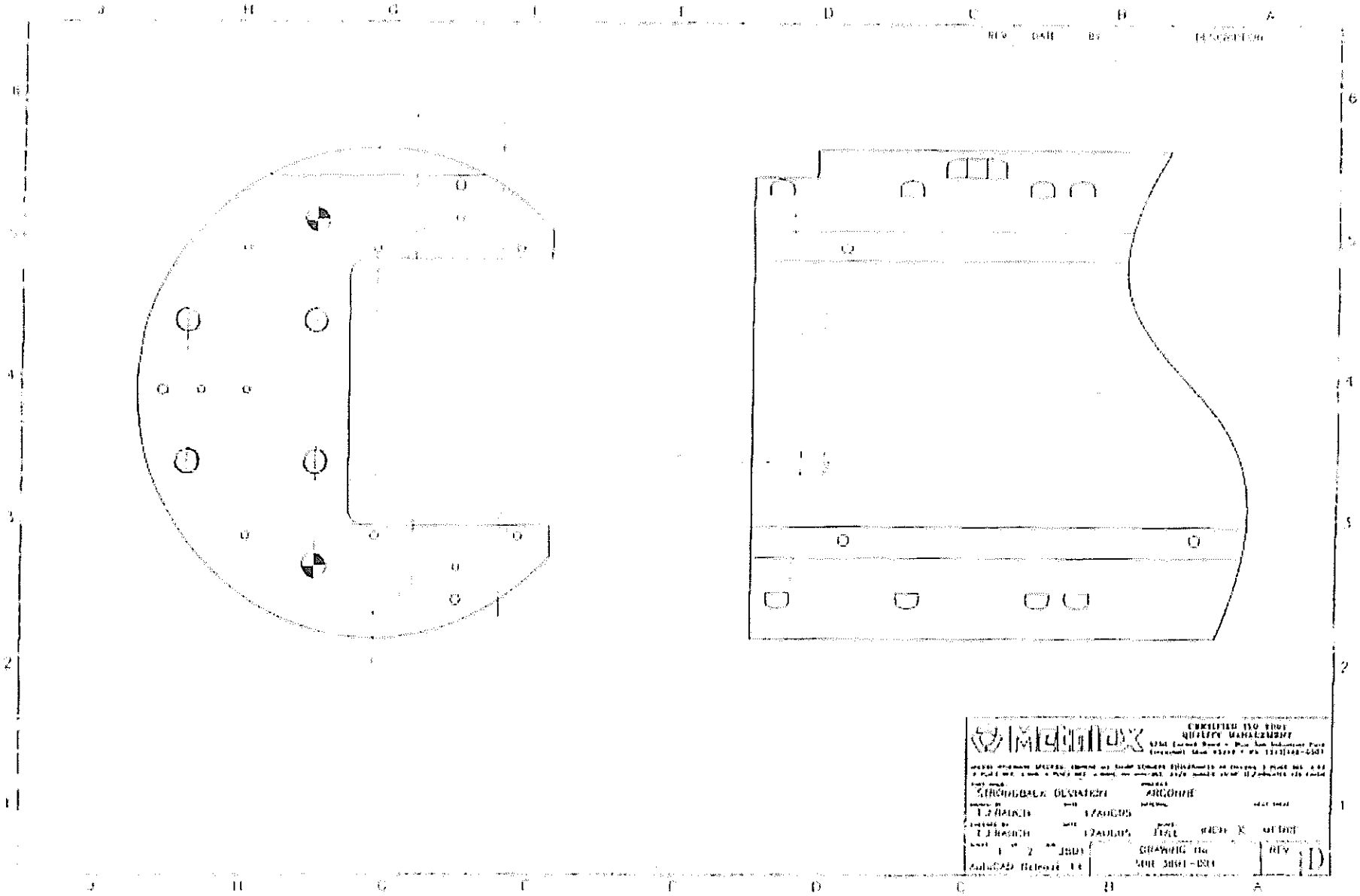
QUALITY ASSURANCE REPRESENTATIVE - DATE

[signature] 8/26/05

PROCUREMENT REPRESENTATIVE - DATE



Metalex
CERTIFIED SOR 9001
QUALITY MANAGEMENT
STRUNGBACK DEVIATION
ANGUINE
T.J.RAUCH
T.J.RAUCH
FULL
WCH X
METRIC
DRAWING No
REV
D



REV DATE BY DESCRIPTION
Metalex
STRONGBACK DEVIATION
ARGONNE
T.J.RANCH
12AUG05
T.J.RANCH
12AUG05
INCH X METRIC
1 OF 2
AutoCAD Release 14
DRAWING No
REV
D

SUPPLIER DISPOSITION REQUEST (SDR)

(Form ANL-011 includes instructions and continuation sheet.)

Page 1 of 1

CHECK ONE:

☑ 1A. Deviation Request

☐ 1B. Nonconformance Action Request

2. SDR No. 3801-006

3. SDR Date 11/03/2005

4. Supplier Name, Address, Telephone, Fax

Metalex Manufacturing Inc
5750 Cornell Road
(513) 489-0807 phone
(513) 489-1020 fax

5. Purchase Order No. 5A06990

6. Related Documents

E.1 ANL drawing L143-110700 Rev 7 Date

7. Qty	8. Describe Nonconforming Condition	9. Identify Requirement	10. Cause & Corrective Action
	1) Along with this form, Metalex has attached a sketch named MXPL143-110700-03. This sketch outlines some additional "for manufacturing process only" holes that Metalex is requesting permission to add to the production Stangback details. These three (3) .2500" diameter tooling holes located as shown will allow ease of manufacturing and inspection of the critical overall length of this detail.	Metalex requests direction and approval from ANL on this item.	

SUPPLIER'S COMMENTS (IF YES, EXPLAIN)

11. Affects Form, Fit or Function

☐ Yes ☑ No

12. Affects Price

☐ Yes ☑ No

Rob Schuermann - Director, Tech. Business Unit - 11/03/05

Rob Schuermann 11/03/05

13. SUPPLIER REPRESENTATIVE – TITLE – DATE

13. Affects Delivery

☐ Yes ☑ No

14. Recommended Disposition and Comments:

Recommend acceptance.

[signature]

16. ANL REPRESENTATIVE – DATE

17. ANL Disposition and Remarks: Acceptable

18. Approved

[signature] 11/03/05

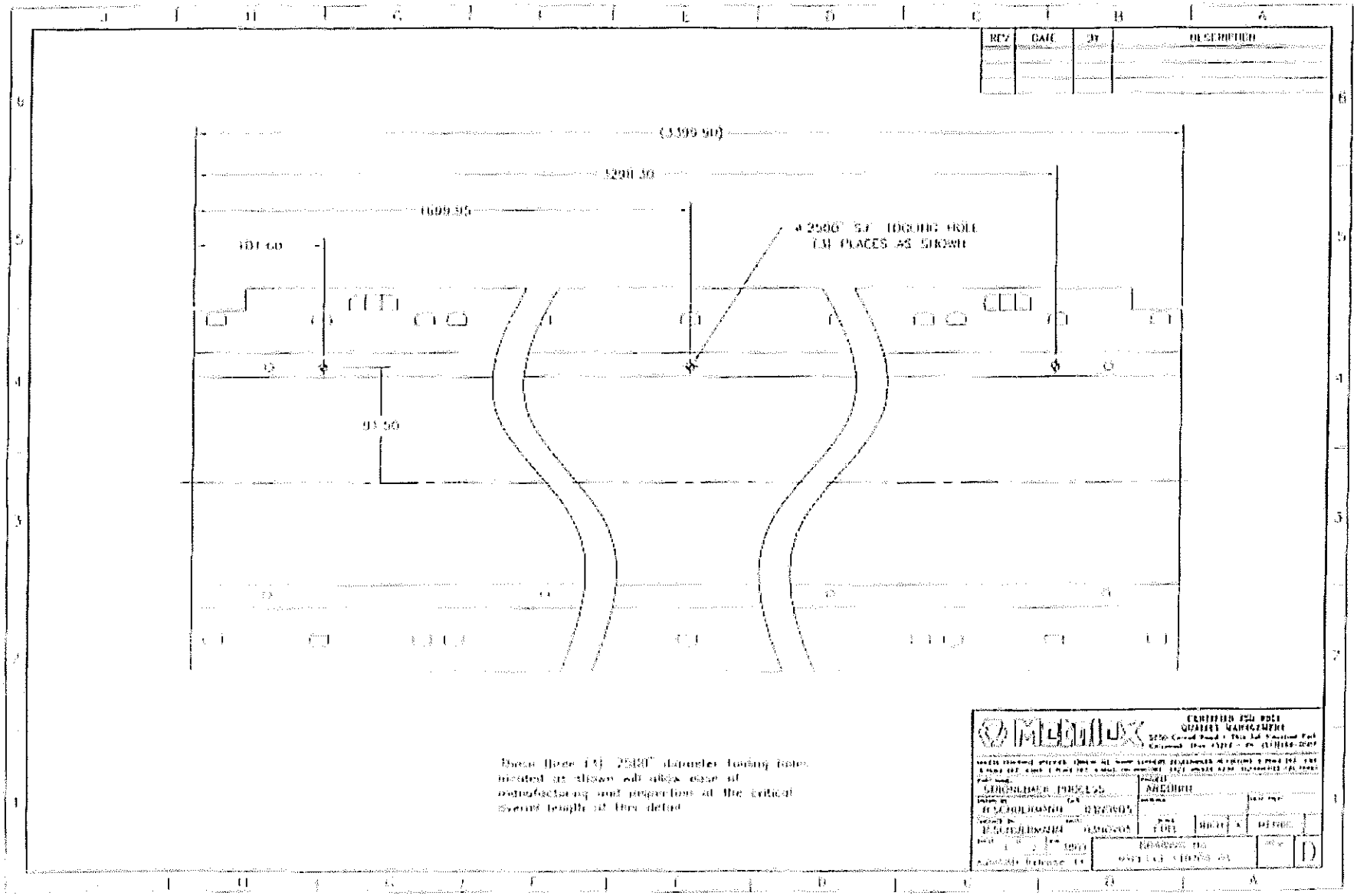
TECHNICAL REPRESENTATIVE – DATE

[signature] 11/03/05

QUALITY ASSURANCE REPRESENTATIVE – DATE

[signature] 11/3/05

PROCUREMENT REPRESENTATIVE – DATE


REV
DATE
BY
DESCRIPTION
(3399.90)
3291.30
1699.95
101.60
93.50
Ø 2500" S.F. TOOLING HOLE
(3) PLACES AS SHOWN
Metalex
CERTIFIED ISO 9001
QUALITY MANAGEMENT
SCHOLDMANN PROCESS
ARBORN
D

Schuermann, Rob

From: Oprondek, Michael T. [mtoprondek@anl.gov]
Sent: Thursday, November 03, 2005 5:36 PM
To: Schuermann, Rob
Cc: Lawrence, Glen; Barsz, Thomas R.
Subject: metalex SDR 005
Attachments: metalex.pdf

<<metalex.pdf>>

Michael Oprondek, Procurement Department,
Argonne National Laboratory, operated for the
U.S. Department of Energy by the University of Chicago
phone 630 252 7069 fax 630 252 4617

11/4/2005

Metalex

INSPECTION PLANNING & REPORT FORM

Metalex Mfg.
5750 Cornell Rd • Cincinnati, OH 45242 • (513) 489-0507

Job No.	Qty
2005-3802	1

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110700	REV 07	P.O. Number SA06990
	Date Rec'd N/A	P.O. No. N/A	Part Name STRONGBACK		

At Oper	Serial Numbers		Customer Name
150	S/N: SA06990-04	PRODUCTION	ARGONNE NATIONAL LABORATORY

SPECIFICATION	S/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ

** ALL DIMENSIONS TO BE RECORDED IN MILLIMETERS **

ALL DIMENSIONS APPLY AT A TEMPERATURE OF 20 DEGREES CELSIUS. PART MUST BE IN THERMAL EQUILIBRIUM DURING MEASUREMENTS AND AT THE SAME TEMPERATURE AT THE BEGINNING AND CONCLUSION OF THE MEASUREMENTS WITHIN +/-0.3 DEG. CELSIUS.

** THE PART TEMPERATURE BEFORE, DURING, AND AFTER DIMENSIONAL MEASUREMENT SHALL BE RECORDED BELOW**

PART TEMPERATURE *BEFORE* INSPECTION	SOW 4.5.1	CONTACT THERMOMETER MX1794	67.9°F	MTX QC 16	
PART TEMPERATURE *DURING* INSPECTION	SOW 4.5.1	CONTACT THERMOMETER MX1794	67.89°F	MTX QC 16	
PART TEMPERATURE *AFTER* INSPECTION	SOW 4.5.1	CONTACT THERMOMETER MX1794	67.9°F	MTX QC 16	
DRAWING L143-110700					
MATERIAL DESCRIPTION: ASTM B381 F2 TITANIUM GRADE 2	A2	CERT# 127418	CONFORMS	MTX QC 16	
ALL DIMENSIONS ARE IN MILLIMETERS, SURFACE FINISH IN MICRONS.	NOTE #1		INFORMATION ONLY	MTX QC 16	
REMOVE ALL BURRS AND BREAK SHARP EDGES 0.3mm MAX	NOTE #2	VISUAL & RADIUS GAGE MX837 & MX838	CONFORMS	MTX QC 16	
UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 6.4 MICRONS	NOTE #3	PROFILOMETER MX1304	CONFORMS	MTX QC 16	
[.05 A B]	D7	CMM MX1269	within .0004 (.010 mm)	MTX QC 16	
[.05 A B]	D2	CMM MX1269	within .0005 (.012 mm)	MTX QC 16	
1.6	D2	PROFILOMETER MX1304	1.6 or better	MTX QC 16	
167.00 +.05 -.00	C2	CMM MX1269	167.01 - 167.04	MTX QC 16	

STAMP	INSPECTED BY	DATE	PAGE 1 OF 2	QTY ACC	QTY REJ
MTX QC 16	[signature]	11/09/05		1	

MX1010 (7/95)

Metalex

INSPECTION PLANNING & REPORT FORM

Metalex Mfg.
5750 Cornell Rd • Cincinnati, OH 45242 • (513) 489-6507

Job No.	Qty
2005-3802	1

Inspection Origin	Vendor (Sub-Tier Source) Identification			Customer Identification	
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No L143-110700	REV 07	P.O. Number 5A06990
	Date Rec'd N/A	P.O. No N/A	Part Name STRONGBACK		
At Oper 150	Serial Numbers S/N: 5A06990-04 PRODUCTION		Customer Name ARGONNE NATIONAL LABORATORY		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
83.50 ± .05	C2	CMM MX1269	83.50-83.52	MTX QC 16	
1.6	C2	PROFILOMETER MX1304	1.6 / OR BETTER	MTX QC 16	
.05	C2	CMM MX1269	WITH .025	MTX QC 16	
.05	C2	CMM MX1269	WITH .035	MTX QC 16	
.05	D1	CMM MX1269	.050	MTX QC 16	
.1 A	D1	CMM MX1269	WITH .028	MTX QC 16	
.05 A	E8	CMM MX1269	.017	MTX QC 16	
ALL OTHER FEATURES ARE ACCEPTED PER METALEX OPERATOR ACCEPTANCE PROGRAM (OAP) MXW117001 & OPERATOR SIGNOFF OF ROUTER OPERATIONS FOR COMPLIANCE TO ALL DRAWING FEATURES GENERATED WITHIN THAT DEFINED OPERATION.		ROUTER SIGNOFF MX5009	Conforms	MTX QC 16	

STAMP	INSPECTED BY	DATE	PAGE 2 OF 2	QTY ACC	QTY REJ
MTX QC 16	[signature]	11/29/05		1	

MX10100 (7/98)

ARGONNE NATIONAL LABORATORY

ACCEPTANCE CRITERIA LISTING

2. PAGE ONE OF 1 3. ACL NO. E5-026046

4. ORIGINATOR'S NAME & DIVISION Glen Lawrence XFD 5. PHONE 2-9298 6. DATE 1-24-05

7. PART NO. & NAME L143-110107 Magnet Structure last Pole / L143-110105 Magnet Structure Pole 8. QUANTITY 170 / 19030

9. FOR INSPECTION, DELIVER TO BLDG. NO. N/A DIVISION ATTN:

10. AFTER INSPECTION, DELIVER TO BLDG. NO. N/A DIVISION ATTN:

11. REFERENCES AND/OR REMARKS: The Magnet Poles are to be delivered to the Undulator Asembly Contractors by the Machining Contractor . Undulator Assembly Contractor shall inspect the Magnet Poles prior to acceptance. ANL shall review all Certifications and Machining Contractor's reported measurements & optionally perform on-site inspections.

12 STEP NO.	13 INSPECTION/TEST REQUIREMENT	14 INSPECTION TEST LOCATION	18 ACCEPTED BY OR NONCONFORMANCE REPORT NO.	19 DATE
1	Visual inspection of parts for shipping damage.	Undulator Ass'y Contractor	Thomas P. Baker	8.7.06
2	Check that parts were "bagged and Tagged" with serial no.'s and part no.'s (ANL & SLAC) per SOW L143-00031,	Undulator Ass'y Contractor	Thomas P. Baker	8.7.06
	Section 4.1.3.			
3	Check that parts were marked with serial numbers per SOW section 4.1.3.	Undulator Ass'y Contractor	Thomas P. Baker	8.7.06
4	Check that accompanying Certifications have correct part serial numbers.	Undulator Ass'y Contractor	N/A	8/07/06
5.	Check the material certification for compliance with ASTM A801, Type 1.	Undulator Ass'y. Contractor & ANL	N/A	8/07/06
6	Check the anneal certification for compliance with AMS-A801, or a specified material supplier's annealing schedule.	Undulator Ass'y Contractor & ANL	N/A	8/07/06
7	Check that the machining Contractor's certified dimensional measurements are in compliance with the drawing.	ANL		
8	Verify the critical dimensions as listed in the SOW, Section 4.5.2 are in compliance with the drawing	Undulator Ass'y Contractor		8/07/06
	* L143-112000-05			
	SA-381-001-35			
	SA10359-04			

15. ORIGINATOR OF PLAN Glen Lawrence DATE 1-24-05

16. PLAN REVIEWED/APPROVED BY DATE

17. QAR CONCURRENCE WITH PLAN DATE

Metalex
Manufacturing
Inc.

Metalex
Customized Machinery and Parts
CERTIFIED ISO 9001 QUALITY MANAGEMENT

Metalex Manufacturing
L143-112000 BOM/ASSY Undulator
Purchase Order No. 5A10359

LCLS Undulator poles inspection per L143-00076 Assembly Procudure:

Inspection - Poles / Magnets / Magnet Structure Bases

1. *Obtain the QA inspection reports for the* ***poles (drawing L143-110105)*** *and magnets (drawing L143-110106 - See appendix A for blank inspection reports). Randomly select 10% of the delivered poles and magnets and inspect them to a minimum precision of .0025mm to verify that they meet the critical drawing specifications.*

Assembly:

ANL Part/Revision Number: L143-112000-~~01~~ - 05 RoBS 8/07/06
SLAC Part Number: SA-381-001-35
Assembly Serial Number: 5A10359-04

Inspection/Acceptance report or components for as-built drawings:

Part: L143-110105 Poles

Print: Thomas P. Becker Date: 7-27-06

Signed : Thomas P Becker

5750 Cornell Road • Blue Ash Industrial Park • Cincinnati, OH 45242
Phone (513) 489-0507 • Fax (513) 489-1020

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 2888

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.97	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.98	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX-2, 587B, 587F, 587K, MX1452, MX1471, MX851

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5543

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.92	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.984	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX-2, 587G, 587F, 587K, MX 1452, MX 1471, MX851

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5661

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.94	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.99	Accept/Reject
Perpendicularity to A (both sides)	</= .01	N/A	<.01	Accept/Reject
Flatness of base	</= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker

Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 2699

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.91	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.984	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 2594

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.90	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.984	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4756

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.96	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.991	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 2689

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.96	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.983	Accept/Reject
Perpendicularity to A (both sides)	</= .01	N/A	<.01	Accept/Reject
Flatness of base	</= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5260

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.94	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.990	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	< .01	Accept/Reject
Flatness of base	<= .01	N/A	< .01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5070

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.95	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.987	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5789

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.92	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.99	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 3185

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.95	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.984	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5651

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.91	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.983	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 1333

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.91	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.979	Accept/Reject
Perpendicularity to A (both sides)	</= .01	N/A	<.01	Accept/Reject
Flatness of base	</= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4622

P.O. #:

DATE: 7·19·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.95	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.993	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4300

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.98	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.987	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 2602

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.96	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.984	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4534

P.O. #:

DATE: 7·19·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.97	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.989	Accept/Reject
Perpendicularity to A (both sides)	</= .01	N/A	<.01	Accept/Reject
Flatness of base	</= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5385

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.91	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.985	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5335

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.93	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.983	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5557

P.O. #:

DATE: 7·19 06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	48.00	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.93	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.989	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4431

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.94	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.99	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4368

P.O. #:

DATE: 7·19·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.96	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.99	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 2217

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.93	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.984	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5336

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.94	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.990	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5661

P.O. #:

DATE: 7·19·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.92	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.988	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 3873

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.92	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.991	Accept/Reject
Perpendicularity to A (both sides)	</= .01	N/A	<.01	Accept/Reject
Flatness of base	</= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 426 7

P.O. #:

DATE: 7·19·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.92	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.988	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5418

P.O. #:

DATE: 7·19·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.98	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.991	Accept/Reject
Perpendicularity to A (both sides)	</= .01	N/A	<.01	Accept/Reject
Flatness of base	</= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P. Becker

QA Supervisor:

Thomas P. Becker

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 3121

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.93	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.982	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 3316

P.O. #:

DATE: 7·19·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.96	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.99	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5582

P.O. #:

DATE: 7·19·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.95	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.99	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4562

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.94	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.986	Accept/Reject
Perpendicularity to A (both sides)	</= .01	N/A	<.01	Accept/Reject
Flatness of base	</= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5383

P.O. #:

DATE: 7·19·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.94	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.984	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 3365

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.91	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.987	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	.01	Accept/Reject
Flatness of base	<= .01	N/A	< .01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5077

P.O. #:

DATE: 7-19-06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.93	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.99	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 3139

P.O. #:

DATE: 7.19.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.93	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.983	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5526

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / -.01	43.95	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.982	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 2724

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / -.01	43.95	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.975	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 3636

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.96	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.985	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5139

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.91	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.984	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P. Becker
THOMAS P. BECKER

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5271

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.92	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.982	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5802

P.O. #:

DATE: 7-18-06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	48.00	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.95	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.984	Accept/Reject
Perpendicularity to A (both sides)	</= .01	N/A	< .01	Accept/Reject
Flatness of base	</= .01	N/A	< .01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4120

P.O. #:

DATE: 7-18-06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.95	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.982	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	< .01	Accept/Reject
Flatness of base	<= .01	N/A	< .01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 3551

P.O. #:

DATE: 7-18-06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.92	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.988	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 2616

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.97	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.976	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4097

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.93	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.980	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	< .01	Accept/Reject
Flatness of base	<= .01	N/A	< .01	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4464

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.98	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.979	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 3671

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.92	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.987	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	< .01	Accept/Reject
Flatness of base	<= .01	N/A	< .01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4514

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ .10	43.98	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.985	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<= .01	Accept/Reject
Flatness of base	<= .01	N/A	< .01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED:

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 4247

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.10	43.93	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.988	Accept/Reject
Perpendicularity to A (both sides)	<= .01	N/A	<.01	Accept/Reject
Flatness of base	<= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: mx2, 587B, 587, 587K mx1452, mx1471 mx851

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR:

PART NAME: LCLS Magnet Structure Pole

DRAWING #: L143-110105

SERIAL #: 5036

P.O. #:

DATE: 7.18.06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Pole height	48.0	+0 / -.01	47.99	Accept/Reject
Pole Width	44.0	+0 / ~~-.01~~ -.1	43.97	Accept/Reject
Pole Thickness	6.00	+0 / -.05	5.984	Accept/Reject
Perpendicularity to A (both sides)	</= .01	N/A	<.01	Accept/Reject
Flatness of base	</= .01	N/A	<.01	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: 587B, 587F, MX1452, 587K, MX1471, MX851, MX-2

COMMENTS:

ARGONNE NATIONAL LABORATORY

ACCEPTANCE CRITERIA LISTING

2. PAGE ONE OF 1 3. ACL NO. E5-069069

4. ORIGINATOR'S NAME & DIVISION Glen Lawrence XFD 5. PHONE 2-9298 6. DATE 1-31-05

7. PART NO. & NAME L143-110106 Magnet Structure Magnet 8. QUANTITY 19200

9. FOR INSPECTION, DELIVER TO BLDG. NO. 401 DIVISION XFD ATTN: Glen Lawrence

10. AFTER INSPECTION, DELIVER TO BLDG. NO. 401 DIVISION XFD ATTN: Glen Lawrence

11. REFERENCES AND/OR REMARKS: Most of the magnets wil be drop shipped directly to the Undulator Assembly Contractor, who will only perform limited physical inspection of the parts as they are highly magnetized. A sampling from Each lot will be sent to ANL for verification of the magnetic field properties.

12 STEP NO.	13 INSPECTION/TEST REQUIREMENT	14 INSPECTION TEST LOCATION	18 ACCEPTED BY OR NONCONFORMANCE REPORT NO.	19 DATE
1	Visual inspection of parts for shipping damage..	Undulator Ass'y Contractor	Thomas P Becker	8.7.06
2	Visual inspection of parts for surface chips and pits.	Undulator Ass'y Contractor	Thomas P. Becker	8.7.06
3	Dimensional check of part for conformance to the drawing.	Undulator Ass'y Contractor	Thomas P Becker	8.7.06
4	Review vendor certified test data agrees with SOW requirements	APS Bldg 401		
5	Review Vendor sort list for agreement with sort procedure.	APS Bldg 401		
6	On random sampling, inspect magnetic field with magnetic visualization film for magnetic defects.	APS Magnet Group		
7	On random sampling, confirm Magnetic Moment magnitude And vector components agree with vendor reports	APS Magnet Group		
8	On random sampling, verify the magnet's demagnetization and thermal stability	APS Magnet Group		
	* L143-112000-05			
	SA-381-001-35			
	SA10359-04			

15. ORIGINATOR OF PLAN Glen Lawrence DATE 02-07-05

16. PLAN REVIEWED/APPROVED BY _____ DATE _____

17. QAR CONCURRENCE WITH PLAN _____ DATE _____

Metalex
Manufacturing
Inc.

Metalex
Customized Machinery and Parts
CERTIFIED ISO 9001 QUALITY MANAGEMENT

Metalex Manufacturing
L143-112000 BOM/ASSY Undulator
Purchase Order No. 5A10359

LCLS Undulator magnets inspection per L143-00076 Assembly Procudure:

Inspection - Poles / Magnets / Magnet Structure Bases

1. *Obtain the QA inspection reports for the poles (drawing L143-110105)* ***and magnets (drawing L143-110106 - See appendix A for blank inspection reports).*** *Randomly select 10% of the delivered poles and magnets and inspect them to a minimum precision of .0025mm to verify that they meet the critical drawing specifications.*

Assembly:

ANL Part/Revision Number: L143-112000-~~01~~ - 05 RBS 8/07/06
SLAC Part Number: SA-381-001-35
Assembly Serial Number: 5A10359-04

Inspection/Acceptance report or components for as-built drawings:

Part: L143-110106 Magnet

Print: Thomas P. Backer Date: 7-27-06

5750 Cornell Road • Blue Ash Industrial Park • Cincinnati, OH 45242
Phone (513) 489-0507 • Fax (513) 489-1020

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01029

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.00	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.950	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01169

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.035	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01037

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.012	Accept/Reject
Magnet Width	66.00	+/- .25	66.040	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #:

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05		Accept/Reject
Magnet Width	66.00	+/- .25		Accept/Reject
Magnet thickness	9.00	+0 / -.10		Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01234

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25	65.988	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.970	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01062

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.040	Accept/Reject
Magnet Width	66.00	+/- .25	66.012	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.970	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01248

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.01	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.950	Accept/Reject

INSPECTOR: Thomas P. Becker Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01042

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.012	Accept/Reject
Magnet Width	66.00	+/- .25	66.040	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.970	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01250

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.030	Accept/Reject
Magnet Width	66.00	+/- .25	66.025	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01395

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25	66.025	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.950	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01117

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01274

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25		Accept/Reject
Magnet thickness	9.00	+0 / -.10		Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01429

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.00	Accept/Reject
Magnet Width	66.00	+/- .25	66.040	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.950	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01408

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.00	Accept/Reject
Magnet Width	66.00	+/- .25	66.040	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01078

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.00	Accept/Reject
Magnet Width	66.00	+/- .25	65.96	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.950	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01044

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.00	Accept/Reject
Magnet Width	66.00	+/- .25	66.040	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.970	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01243

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.020	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01339

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.012	Accept/Reject
Magnet Width	66.00	+/- .25	66.050	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.970	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX597K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01256

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25	65.988	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01386

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.012	Accept/Reject
Magnet Width	66.00	+/- .25	66.012	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P Becker Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01178

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.030	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 00962

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.970	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01120

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.020	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.970	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01048

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.012	Accept/Reject
Magnet Width	66.00	+/- .25	66.050	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.970	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01264

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01247

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.00	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.96	Accept/Reject

INSPECTOR: Thomas P Becker Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01357

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25	66.050	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.95	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01255

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.020	Accept/Reject
Magnet Width	66.00	+/- .25	66.040	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01372

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25	65.950	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01089

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.96	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01398

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.012	Accept/Reject
Magnet Width	66.00	+/- .25	66.012	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.950	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01426

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.012	Accept/Reject
Magnet Width	66.00	+/- .25	66.05	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX551, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01302

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.012	Accept/Reject
Magnet Width	66.00	+/- .25	66.025	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.970	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01140

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.020	Accept/Reject
Magnet Width	66.00	+/- .25	65.988	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 00999

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.033	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01270

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.025	Accept/Reject
Magnet Width	66.00	+/- .25	65.988	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01383

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.020	Accept/Reject
Magnet Width	66.00	+/- .25	65.988	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.975	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01435

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.012	Accept/Reject
Magnet Width	66.00	+/- .25	66.025	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.950	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01053

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.00	Accept/Reject
Magnet Width	66.00	+/- .25	66.04	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P. Becker Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01438

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.01	Accept/Reject
Magnet Width	66.00	+/- .25	66.04	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.975	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01364

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.030	Accept/Reject
Magnet Width	66.00	+/- .25	65.975	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.975	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01225

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.020	Accept/Reject
Magnet Width	66.00	+/- .25	65.975	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.975	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01023

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.00	Accept/Reject
Magnet Width	66.00	+/- .25	65.988	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.945	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01228

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.020	Accept/Reject
Magnet Width	66.00	+/- .25	66.00	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.95	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01374

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.020	Accept/Reject
Magnet Width	66.00	+/- .25	66.050	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.95	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01182

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.020	Accept/Reject
Magnet Width	66.00	+/- .25	65.988	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.950	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01390

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.02	Accept/Reject
Magnet Width	66.00	+/- .25	66.025	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.96	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX551, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01215

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.012	Accept/Reject
Magnet Width	66.00	+/- .25	65.988	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.960	Accept/Reject

INSPECTOR: Thomas P Becker
Thomas P Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR LCLS MAGNET ASSEMBLIES

VENDOR: Shin Etsu

PART NAME: LCLS Magnet

DRAWING #: L143-110106

SERIAL #: 01299

P.O. #:

DATE: 7·18·06

ACCEPTANCE CRITERIA

1. Visually inspect for shipping damage.	Accept/Reject

CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Magnet height	57.00	+/- .05	57.020	Accept/Reject
Magnet Width	66.00	+/- .25	66.020	Accept/Reject
Magnet thickness	9.00	+0 / -.10	8.950	Accept/Reject

INSPECTOR: Thomas P. Becker
Thomas P. Becker

QA Supervisor:

TEST EQUIPMENT USED: MX587K, MX1452, MX1471, MX851, MX1462, MX1121, MX2

COMMENTS:

Thomas P. Becker
8.7.06

ANL Part/Revision Number: L143-112000-~~04~~ -05 TPB 8/07/06
SLAC Part Number: SA-381-001-35
Assembly Serial Number: 5A10359-04
LOT3 magnets Serial # 961-1440

Bottom Jaw

Slot Number	Serial No.	Main filed Orientation	x-axis orientation
1	1046	Upstream	Right
2	1160	Downstream	Left
3	1035	Upstream	Right
4	1214	Downstream	Left
5	1405	Upstream	Right
6	1201	Downstream	Right
7	1334	Upstream	Right
8	1156	Downstream	Right
9	1417	Upstream	Right
10	1195	Downstream	Right
11	1316	Upstream	Left
12	1167	Downstream	Right
13	1382	Upstream	Left
14	1437	Downstream	Left
15	1335	Upstream	Right
16	1153	Downstream	Right
17	1346	Upstream	Left
18	1219	Downstream	Right
19	979	Upstream	Right
20	1203	Downstream	Left
21	1336	Upstream	Right
22	1123	Downstream	Right
23	1028	Upstream	Right
24	1141	Downstream	Left
25	1381	Upstream	Right
26	1227	Downstream	Right
27	1049	Upstream	Right
28	1202	Downstream	Right
29	1427	Upstream	Left
30	1124	Downstream	Left
31	1344	Upstream	Right
32	1235	Downstream	Right
33	1314	Upstream	Left
34	1232	Downstream	Left
35	1310	Upstream	Right
36	1179	Downstream	Right
37	1400	Upstream	Right
38	1224	Downstream	Right
39	1015	Upstream	Left
40	1142	Downstream	Left
41	1373	Upstream	Left
42	1180	Downstream	Right
43	1065	Upstream	Right

Top Jaw

Slot Number	Serial No.	Main filed Orientation	x-axis orientation
1	1098	Downstream	Right
2	992	Upstream	Left
3	1136	Downstream	Left
4	1077	Upstream	Left
5	1125	Downstream	Left
6	1070	Upstream	Left
7	1271	Downstream	Left
8	1303	Upstream	Left
9	1108	Downstream	Left
10	1376	Upstream	Left
11	1233	Downstream	Right
12	1075	Upstream	Left
13	1173	Downstream	Left
14	991	Upstream	Left
15	1199	Downstream	Left
16	1389	Upstream	Right
17	1166	Downstream	Left
18	1063	Upstream	Left
19	1196	Downstream	Left
20	1071	Upstream	Left
21	1204	Downstream	Left
22	1397	Upstream	Left
23	1091	Downstream	Left
24	1384	Upstream	Left
25	1131	Downstream	Right
26	1291	Upstream	Right
27	1237	Downstream	Left
28	1327	Upstream	Left
29	1212	Downstream	Left
30	1369	Upstream	Left
31	1218	Downstream	Left
32	1321	Upstream	Right
33	1112	Downstream	Left
34	1311	Upstream	Left
35	1106	Downstream	Right
36	1345	Upstream	Right
37	1102	Downstream	Left
38	1347	Upstream	Left
39	1229	Downstream	Right
40	1320	Upstream	Left
41	1433	Downstream	Left
42	1288	Upstream	Left
43	1416	Downstream	Right

44	1104	Downstream	Left
45	980	Upstream	Left
46	1404	Downstream	Left
47	1066	Upstream	Right
48	1145	Downstream	Right
49	1299	Upstream	Right
50	1215	Downstream	Right
51	1390	Upstream	Right
52	1182	Downstream	Right
53	1374	Upstream	Left
54	1228	Downstream	Right
55	1023	Upstream	Right
56	1225	Downstream	Right
57	1364	Upstream	Left
58	1438	Downstream	Left
59	1053	Upstream	Right
60	1435	Downstream	Right
61	1082	Upstream	Right
62	1226	Downstream	Right
63	1286	Upstream	Right
64	1159	Downstream	Left
65	1055	Upstream	Right
66	1276	Downstream	Right
67	1011	Upstream	Left
68	1129	Downstream	Left
69	1328	Upstream	Right
70	1266	Downstream	Right
71	1377	Upstream	Left
72	1101	Downstream	Right
73	1383	Upstream	Right
74	1270	Downstream	Right
75	999	Upstream	Right
76	1140	Downstream	Right
77	1302	Upstream	Right
78	1426	Downstream	Left
79	1398	Upstream	Right
80	1089	Downstream	Left
81	1372	Upstream	Left
82	1255	Downstream	Right
83	1357	Upstream	Right
84	1247	Downstream	Left
85	1371	Upstream	Right
86	1211	Downstream	Left
87	1294	Upstream	Left
88	977	Downstream	Right
89	1076	Upstream	Right
90	1350	Downstream	Left
91	1367	Upstream	Left
92	1158	Downstream	Left
93	1411	Upstream	Right
94	1150	Downstream	Left
95	1030	Upstream	Right

44	1342	Upstream	Left
45	1206	Downstream	Right
46	1057	Upstream	Left
47	1097	Downstream	Right
48	1393	Upstream	Left
49	1264	Downstream	Left
50	1048	Upstream	Left
51	1120	Downstream	Left
52	962	Upstream	Right
53	1178	Downstream	Right
54	1386	Upstream	Left
55	1256	Downstream	Right
56	1339	Upstream	Right
57	1243	Downstream	Left
58	1044	Upstream	Left
59	1078	Downstream	Left
60	1408	Upstream	Right
61	1190	Downstream	Right
62	1315	Upstream	Left
63	1265	Downstream	Left
64	1079	Upstream	Left
65	1192	Downstream	Left
66	1312	Upstream	Right
67	1121	Downstream	Left
68	1407	Upstream	Right
69	1127	Downstream	Left
70	986	Upstream	Left
71	1181	Downstream	Right
72	1008	Upstream	Left
73	1429	Downstream	Right
74	1274	Upstream	Left
75	1117	Downstream	Left
76	1395	Upstream	Left
77	1250	Downstream	Right
78	1042	Upstream	Left
79	1248	Downstream	Left
80	1062	Upstream	Left
81	1234	Downstream	Left
82	1037	Upstream	Left
83	1169	Downstream	Left
84	1029	Upstream	Left
85	1174	Downstream	Right
86	1293	Upstream	Right
87	1095	Downstream	Left
88	1324	Upstream	Right
89	990	Downstream	Left
90	985	Upstream	Left
91	1026	Downstream	Left
92	1012	Upstream	Left
93	1259	Downstream	Right
94	1362	Upstream	Left
95	1245	Downstream	Right

96	1275	Downstream	Right
97	981	Upstream	Left
98	963	Downstream	Left
99	1378	Upstream	Left
100	1200	Downstream	Left
101	1425	Upstream	Left
102	1217	Downstream	Right
103	1326	Upstream	Left
104	1073	Downstream	Right
105	1007	Upstream	Left
106	1061	Downstream	Right
107	1284	Upstream	Left
108	1269	Downstream	Right
109	1019	Upstream	Right
110	1388	Downstream	Left
111	1135	Upstream	Right
112	1146	Downstream	Left
113	1348	Upstream	Left
114	1430	Downstream	Left
115	1038	Upstream	Right
116	1043	Downstream	Right
117	1016	Upstream	Right
118	1188	Downstream	Right
119	1403	Upstream	Right
120	1273	Downstream	Right
121	1187	Upstream	Left
122	1194	Downstream	Right
123	1415	Upstream	Right
124	1051	Downstream	Right
125	988	Upstream	Right
126	1164	Downstream	Left
127	1419	Upstream	Right
128	970	Downstream	Left
129	1330	Upstream	Right
130	1072	Downstream	Right
131	1094	Upstream	Left
132	1318	Downstream	Left
133	1337	Upstream	Right
134	1031	Downstream	Left
135	1087	Upstream	Right
136	1139	Downstream	Right
137	1067	Upstream	Right
138	1413	Downstream	Right
139	1060	Upstream	Right
140	1263	Downstream	Right
141	1283	Upstream	Right
142	965	Downstream	Right
143	1009	Upstream	Right
144	1280	Downstream	Right
145	1296	Upstream	Right
146	1151	Downstream	Right
147	1414	Upstream	Left

96	1020	Upstream	Left
97	1261	Downstream	Left
98	1260	Upstream	Left
99	1420	Downstream	Left
100	1223	Upstream	Right
101	1134	Downstream	Right
102	1358	Upstream	Right
103	1128	Downstream	Right
104	967	Upstream	Left
105	1431	Downstream	Left
106	1027	Upstream	Left
107	1100	Downstream	Left
108	983	Upstream	Left
109	966	Downstream	Right
110	1436	Upstream	Left
111	1032	Downstream	Left
112	1297	Upstream	Left
113	972	Downstream	Left
114	1349	Upstream	Right
115	1209	Downstream	Left
116	1412	Upstream	Left
117	961	Downstream	Right
118	996	Upstream	Left
119	1253	Downstream	Right
120	1356	Upstream	Left
121	1423	Downstream	Right
122	1366	Upstream	Right
123	1085	Downstream	Left
124	1068	Upstream	Left
125	1133	Downstream	Left
126	1424	Upstream	Right
127	984	Downstream	Right
128	1282	Upstream	Left
129	974	Downstream	Left
130	994	Upstream	Left
131	1360	Downstream	Right
132	1325	Upstream	Right
133	1267	Downstream	Left
134	1013	Upstream	Right
135	1005	Downstream	Left
136	1047	Upstream	Left
137	989	Downstream	Left
138	1056	Upstream	Left
139	1025	Downstream	Left
140	1308	Upstream	Left
141	1410	Downstream	Right
142	1036	Upstream	Left
143	1186	Downstream	Left
144	1086	Upstream	Left
145	1198	Downstream	Left
146	1054	Upstream	Left
147	1422	Downstream	Right

148	1093	Downstream	Right
149	987	Upstream	Right
150	1118	Downstream	Right
151	971	Upstream	Right
152	1268	Downstream	Left
153	1022	Upstream	Left
154	1221	Downstream	Right
155	1379	Upstream	Right
156	1279	Downstream	Right
157	1084	Upstream	Right
158	1239	Downstream	Left
159	1058	Upstream	Right
160	1262	Downstream	Left
161	1418	Upstream	Right
162	1126	Downstream	Right
163	1290	Upstream	Right
164	1113	Downstream	Left
165	1081	Upstream	Right
166	1359	Downstream	Right
167	1040	Upstream	Right
168	1440	Downstream	Left
169	1001	Upstream	Right
170	1163	Downstream	Left
171	1340	Upstream	Right
172	1170	Downstream	Left
173	1332	Upstream	Left
174	1208	Downstream	Right
175	1391	Upstream	Right
176	1432	Downstream	Right
177	1039	Upstream	Left
178	1213	Downstream	Left
179	1352	Upstream	Right
180	1242	Downstream	Left
181	1313	Upstream	Right
182	1155	Downstream	Right
183	1292	Upstream	Right
184	1231	Downstream	Right
185	1331	Upstream	Left
186	1144	Downstream	Right
187	1033	Upstream	Right
188	1157	Downstream	Right
189	964	Upstream	Right
190	1103	Downstream	Right
191	1355	Upstream	Right
192	1143	Downstream	Left
193	997	Upstream	Right
194	1111	Downstream	Left
195	1365	Upstream	Right
196	1119	Downstream	Left
197	1319	Upstream	Left
198	1149	Downstream	Right
199	1088	Upstream	Right

148	1338	Upstream	Left
149	1434	Downstream	Right
150	1394	Upstream	Left
151	1254	Downstream	Left
152	969	Upstream	Left
153	995	Downstream	Right
154	1317	Upstream	Right
155	1205	Downstream	Left
156	1050	Upstream	Left
157	1252	Downstream	Right
158	1052	Upstream	Left
159	1092	Downstream	Left
160	998	Upstream	Right
161	1439	Downstream	Left
162	1307	Upstream	Right
163	1258	Downstream	Left
164	1300	Upstream	Left
165	1189	Downstream	Right
166	1368	Upstream	Right
167	1110	Downstream	Right
168	1083	Upstream	Left
169	1246	Downstream	Right
170	1343	Upstream	Right
171	1421	Downstream	Left
172	1385	Upstream	Left
173	1236	Downstream	Right
174	1428	Upstream	Left
175	1193	Downstream	Right
176	1392	Upstream	Left
177	1168	Downstream	Left
178	1401	Upstream	Right
179	1257	Downstream	Right
180	1354	Upstream	Left
181	1191	Downstream	Left
182	1004	Upstream	Left
183	1222	Downstream	Right
184	1021	Upstream	Left
185	1380	Downstream	Left
186	1002	Upstream	Left
187	1240	Downstream	Left
188	1059	Upstream	Left
189	1096	Downstream	Right
190	1003	Upstream	Left
191	1107	Downstream	Right
192	1301	Upstream	Left
193	1171	Downstream	Right
194	1006	Upstream	Left
195	1183	Downstream	Right
196	1306	Upstream	Left
197	1277	Downstream	Left
198	1322	Upstream	Left
199	1175	Downstream	Left

200	1238	Downstream	Left
201	1281	Upstream	Right
202	1147	Downstream	Left
203	1080	Upstream	Right
204	1090	Downstream	Left
205	1064	Upstream	Left
206	1216	Downstream	Right
207	975	Upstream	Right
208	1138	Downstream	Right
209	1329	Upstream	Left
210	1162	Downstream	Left
211	1333	Upstream	Right
212	1278	Downstream	Left
213	1069	Upstream	Left
214	1165	Downstream	Right
215	1289	Upstream	Right
216	1176	Downstream	Right
217	1041	Upstream	Right
218	1220	Downstream	Right
219	1351	Upstream	Right
220	1132	Downstream	Left
221	1363	Upstream	Right
222	1249	Downstream	Right
223	1285	Upstream	Right
224	1230	Downstream	Right
225	1370	Upstream	Right

200	978	Upstream	Left
201	1251	Downstream	Right
202	1353	Upstream	Left
203	1210	Downstream	Left
204	1396	Upstream	Left
205	1244	Downstream	Left
206	1010	Upstream	Left
207	1161	Downstream	Right
208	1295	Upstream	Right
209	1154	Downstream	Left
210	1375	Upstream	Left
211	1207	Downstream	Right
212	993	Upstream	Left
213	1184	Downstream	Left
214	1304	Upstream	Left
215	1148	Downstream	Right
216	1361	Upstream	Left
217	1197	Downstream	Right
218	1309	Upstream	Right
219	1116	Downstream	Right
220	1034	Upstream	Left
221	1114	Downstream	Right
222	973	Upstream	Left
223	1115	Downstream	Right
224	1399	Upstream	Left
225	1122	Downstream	Right

For "X-Axis Orientation" column
"Right" stands for right-numbered surface should face to the undulator axis.
"Left" stands for left-numbered surface should face to the undulator axis.
This "Right", "Left" procedure applies for both Top and Bottom Jaw

For "Main-Field Orientation" column **(see Assembly Procedure Document)**
"Downstream" side corresponts to the direction of lower-numbered slot.
Arrow should point toward the lower numbered slots.
"Upstream" side corresponds to the direction of higher-numbered slot.
Arrow should point toward the higher numbered slots.

Spare magnets

serial No.	Reduced Magnetization
1130	33%
1406	80%
1172	
1382	
1177	
1387	
1137	
1305	
1185	

Sample magnets

serial No.
1018
1152
1272
1298
1402

1000
1109
1045
1409
1017
1241
1074
1105
1323
1099
968
1014
1287
1024
982
976

Serial #4

	LOT# 3 Device# Date	08/08/06		
Slot No		Slot No		Slot Number	
1		51	1.27	100	7
2		52	1.28	101	7
3	1.29	53	1.27	102	7
4	1.26	54	1.27	103	7
5	1.27	55	1.27	104	7
6	1.27	56	1.27	105	7
7	1.27	57	1.28	106	7
8	1.26	58	1.28	107	7
9	1.26	59	1.28	108	7
10	1.26	60	1.27	109	7
11	1.27	61	1.28	110	7
12	1.27	62	1.27	111	7
13	1.26	63	1.27	112	7
14	1.27	64	1.28	113	7
15	1.27	65	7	114	7
16	1.27	66	7	115	7
17	1.27	67	7	116	7
18	1.28	68	7	117	7
19	1.27	69	7	118	7
20	1.27	70	7	119	7
21	1.27	71	8	120	7
22	1.27	72	7	121	6
23	1.27	73	7	122	7
24	1.27	74	7	123	8
25	1.28	75	8	124	7
26	1.26	76	8	125	7
27	1.27	77	8	126	7
28	1.27	78	7	127	8
29	1.27	79	6	128	7
30	1.27	80	7	129	7
31	1.27	81	7	130	7
32	1.27	82	7	131	7
33	1.27	83	7	132	8
34	1.28	84	7	133	8
35	1.26	85	6	134	7
36	1.27	86	8	135	7
37	1.27	87	7	136	6
38	1.28	88	7	137	7
39	1.28	89	7	138	8
40	1.27	90	7	139	8
41	1.27	91	7	140	7
42	1.27	92	7	141	8
43	1.28	93	7	142	6
44	1.27	94	7	143	7
45	1.27	95	7	144	7
46	1.27	96	7	145	7
47	1.27	97	7	146	6
48	1.27	98	7	147	6
49	1.28	99	7	148	7
50	1.27			149	7

Slot Number		Slot Number	
150	7	200	1.28
151	8	201	7
152	8	202	8
153	8	203	7
154	7	204	7
155	7	205	7
156	7	206	7
157	7	207	7
158	7	208	7
159	6	209	7
160	7	210	7
161	7	211	8
162	7	212	7
163	7	213	7
164	6	214	7
165	7	215	8
166	7	216	7
167	6	217	8
168	7	218	7
169	7	219	8
170	7	220	8
171	7	221	7
172	6	222	8
173	7	223	1.22
174	7	224	0.74
175	7	225	
176	7		
177	7		
178	6		
179	6		
180	7		
181	6		
182	8		
183	7		
184	7		
185	7		
186	7		
187	7		
188	7		
189	7		
190	8		
191	7		
192	7		
193	8		
194	8		
195	7		
196	7		
197	7		
198	7		
199	8		

Emil Trauliteuberg
Isaac Vasserman

CUSTOMER	SHIP DATE	GROSS WEIGHT	QUOTE		PACKING
55230	06/30/06 SHP	1500	05-1226592-	1 OF 1	TEST RESULTS
BILL TO: METALEX MFG INC	WORK ORDER **		ORDER DATE 05/30/06 ORD		

DELIVERY DATE	SHIP BRANCH	SELL BRANCH	WORK ORDER
07/05/06 DEL	02-GRR	05-DAY	2P1680

SHIP TO:
METALEX MFG INC 01
5750 CORNELL
CINCINNATI OH 45242

1310 SCRIBNER NW, GRAND RAPIDS MI 49504-3287
Copper and Brass Sales
A ThyssenKrupp Materials NA company
ThyssenKrupp

CUSTOMER P.O. NUMBER	TERRITORY	ENTRY ID
64760-BL - 5681	03	05JWZ

BUYER	INSIDE SALES
~~BRIAN LAWSON, P.A.~~	JEFF W. ZELLERS

BUYER TELEPHONE	INSIDE SALES TELEPHONE
(513)489-0539	(937)415-2620 52631

CUSTOMER SIGNATURE: DATE:

QUANTITY	ORDERED	SHIPPED
INVENTORY	654.23 LB	~~640.00~~
BILLING	654.23 LB	640.00
WAREHOUSE		

SHIP VIA / SHIPPING STATUS

INTERNAL	COMPLETE	PARTIAL	CANCEL
POOL-TO 05-DAY	X		

TO CUSTOMER: OUR TRUCK/OUR DEL-D1
FOB: ORIG
BILL OF LADING
FREIGHT STATUS: PPD
PACKED WITH OTHER GOODS
FINISHED GOODS LOCATION: WARN LABEL:1013

PART DESCRIPTION: 310373-6

ALUMINUM BRONZE PLATE AMPCO 8 C614/C613, .3125 (+-.019)
SAW 48" X 36" (+.064,-0), LINE ITEM#: 1.
Test Results Attn to: QA Department. , actual certs must be signed Item# 1

4pcs

METALEX
QA. DEPT.
ACCEPTED
DATE 7/10/06
BY KKB

SPECIAL INSTRUCTIONS

P/N L143-110104

FILL	SCRAP	FILLED BY	PACKED BY	QA AUDIT
		JM		

CUSTOMER RECEIVING HOURS	MAX SKID WEIGHT	LOADING INSTRUCTIONS	MAXIMUM BUNDLE WEIGHT
6:00 am - 12:00 pm	15000	CRANE, FORK	30000

BOXES	BARS	CASES	CUSHP	PKGS	SKIDS	BDLS	TUBES	CTNS	FLAT	COILS
					1					

INSPECTION RECORD

TEST RESULTS -----

CERTIFICATE OF COMPLIANCE
We hereby certify that mercury or any of its compounds are not used in the processing and distribution of our products. The products we distribute are not hazardous in their received state. For MSDS sheets go to www.copperandbrass.com/msds or call 248-233-5682. We hereby certify that the material above complies with the following specifications:
ASTM-B169

ROHS COMPLIANT

TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS	TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS
042931 00	640.00	LB	REVEREC	0CX5986	532/4386								

Dec
RECEIVED
JUL 05 2006
METALEX MFG.
BY S.W

STEVEN J. FARACI · General Manager: GRAND RAPIDS PRINTED 06/30/06 01:39 PM CONTROL NO 00049

COPPER AND BRASS SALES IS A DIVISION OF THYSSENKRUPP MATERIALS, INC.

Revere Copper Products, Inc.

24 North Front Street New Bedford, MA 02740
Phone: (508) 999-5601 Fax: (508) 991-2115

CERTIFICATE OF TEST

PAGE 1

DATE CODE: 179

ORDER FROM:
COPPER AND BRASS SALES
ATTN: ACCOUNTS PAYABLE
P O BOX 5116
SOUTHFIELD MI 48086-5116

SHIPPED TO:
TMX/COPPER AND BRASS SALES
1310 SCRIBNER AVENUE NORTH WEST
GRAND RAPIDS MI 49504-3287

DATE: 6/28/06
REVERE NO: 33549 ITEM#: 01
CUSTOMER ORDER NUMBER:
CK5986

MATERIAL INFORMATION:

ALUMINUM BRONZE SHEET
C61300/C61400 / AMPCO 8
SOFT TEMPER
48" X 144" X .3125"

ASTM B 169-2001
P/N 310373-6
ROHS COMLIANT

CHEMICAL COMPOSITION

PIECES	LOT	HEAT	COPPER Cu	TIN Sn	LEAD Pb	IRON Fe	NICKEL Ni	MANGANESE Mn	PHOSPHORUS P	CARBON C	SULFUR S	ZINC Zn	SILICON Si	ALUMINUM Al	ARSENIC As
4	4386	532	90.00	.260	.00	2.58	.00	.16	.004			.03	.01	6.92	

NICKEL INCLUDES COBALT

PHYSICAL AND MECHANICAL PROPERTIES

LOT	HEAT	YIELD STRENGTH 0.5% Ext. Psi	TENSILE STRENGTH Psi	ELONGATION % in 2 inches	BEND in degrees	RESISTIVITY ohms/g/m2	ASTM F68 CLASS	ROCKWELL/ BRINELL
4386	532	38,000	83,500	50	120			
4386	532	37,900	82,600	48	120			

Job# 5681
Part# L143-110104
P.O# 64760-BL

METALEX QA. DEPT. ACCEPTED DATE 7/10/06 BY KKB MTX OC 18

Metalex
6-30-06
P064760-BL - 5681
ZP:1680
640#
CHB

WE HEREBY CERTIFY THAT EACH LOT HAS BEEN SAMPLED, TESTED, AND INSPECTED IN ACCORDANCE WITH THE ABOVE SPECIFICATIONS AND HAS MET THE REQUIREMENTS. THE MATERIAL HAS NOT BEEN WELD REPAIRED.

JORG SCHAFFSTEIN
Q.C. ADMINISTRATOR

ML2-1 02/01

06/30/2006 12:53 FAX

CERTIFICATE OF TEST

Certification Date
26-MAY-2006

CUSTOMER ORDER NUMBER
64752-BL-5681

CUSTOMER PART NUMBER
ITEM 1

EARLE M. JORGENSEN COMPANY
601 REDNA TERRACE
P.O. BOX 15100
CINCINNATI OH 45215

Invoice Number
S956531

SOLD TO: METALEX MANUFACTURING
5750 CORNELL RD
CINCINNATI OH 45242

SHIP TO: METALEX MFG
5750 CORNELL ROAD
CINCINNATI OH 45242

Description: 1018 CF BAR ASTM A108
3/16 X 1/2 FLATS X 12' R/L
HEAT: CL132712 ITEM: 502748

Line Total: 3.8 LB

Specifications:
ASTM A108 93

CHEMICAL ANALYSIS

C	MN	P	S	B	CR	CU	MO
0.16	0.71	0.008	0.029	0.0001	0.09	0.2	0.01

N	NI	SI	SN	TI	V
0.007	0.06	0.25	0.009	0.001	0.001

RCPT: R251728
MILL : CHARTER WIRE

COUNTRY OF ORIGIN : US

STRAND CAST REDUCTION RATIO 284.0 TO 1

COMMENTS
MELT SOURCE: STEEL DYNAMICS
HOT ROLL SOURCE: CHARTER STEEL
SILICON KILLED COARSE GRAIN

METALEX
QA. DEPT.
ACCEPTED
DATE 6/6/06
BY KKB

Job# 5681
PART# L143-110108
P.O# 64752

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination.

We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes.

Material did not come in contact with mercury while in our possession.

Paul Barnhart
MANAGER, QUALITY ASSURANCE

Earle M. Jorgensen Co. Original test report for the order shown below.

EMJ SID#:S956531 CUSTOMER:METALEX MFG P.O:64752-BL-5681 CUST. PART#:ITEM 1 QTY: 3.800 DATE:06-05-26 SIGNATURE:

CHARTER WIRE
A Division of Charter Manufacturing Co., Inc.
114 N. Jackson Street
Milwaukee, Wisconsin 53202-6297
(414) 390-3000
(414) 390-3031 Fax

R 251728

DATE: 11/12/2004

CERTIFICATE OF MATERIAL AND SPECIFICATION

CUSTOMER: EMJ
CUSTOMER'S P.O. NO: P743436001
Customer Item: 502748
SIZE: .1875 X .500
GRADE: AISI 1018
HEAT NO: cl132712

SALES ORDER NO: s37410
WORKORDER: 06100003
ITEM NO: 09043
SPEC 1: ASTM A108-93
SPEC 2:
SPEC 3:

CHEMICAL ANALYSIS: C: .1600 Mn .7100 P: .0080 S: .0290
B: .0001 Cr .0900 Cu .2000 Mo .0100
N: .0070 Ni .0600 Si .2500 Sn .0090
Ti .0010 V: .0010

MILL SPECIFICATIONS: Hot Roll Source: CHARTER STEEL (USA)
Melt Source: STEEL DYNAMICS (USA)
Casting Practice: STRAND
Killing Practice/Grainsize: SILICON KILLED COARSE GRAIN
Reduction Ratio: 284 TO 1

906#56081

METALEX
QA. DEPT.
ACCEPTED
DATE 6/6/06
BY KKB

P/N L143-110108
P.O.# 64752
Item# 1

HEAT ANALYSIS IS FROM THE PACKING LIST RECEIVED BY CHARTER FROM OUR RAW MATERIAL SUPPLIER.

QUALITY REPRESENTATIVE

ORIGINAL

CERTIFICATE OF TEST

Certification Date
26-MAY-2006

CUSTOMER ORDER NUMBER
64752-BL-5681

CUSTOMER PART NUMBER
ITEM 2

EARLE M. JORGENSEN COMPANY
601 REDNA TERRACE
P.O. BOX 15100
CINCINNATI OH 45215

Invoice Number
S956534

SOLD TO: METALEX MANUFACTURING
5750 CORNELL RD
CINCINNATI OH 45242

SHIP TO: METALEX MFG
5750 CORNELL ROAD
CINCINNATI OH 45242

Description: 1018 CF BAR ASTM A108
1/4 X 3/4 FLATS X 12' R/L
HEAT: CI134628 ITEM: 502781

Line Total: 7.6 LB

Specifications:
ASTM A108 93

CHEMICAL ANALYSIS

C	MN	P	S	AL	B	CR	CU
0.18	0.67	0.011	0.027	0.007	0.0002	0.09	0.17

MO	N	NI	SI	SN	V
0.02	0.009	0.07	0.15	0.011	0.002

RCPT: R636656
MILL : CHARTER WIRE

COUNTRY OF ORIGIN : USA

STRAND CAST REDUCTION RATIO 145.0 TO 1

COMMENTS
MELT SOURCE ALTON STEEL USA
SILICON KILLED COARSE GRAIN

METALEX
QA. DEPT.
ACCEPTED
DATE 6/6/06
BY KKB

Job# 5681
Part# L143-11012
P.O# 64752-BL

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination.

We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes.

Material did not come in contact with mercury while in our possession.

Paul Bornhart
MANAGER, QUALITY ASSURANCE

Earle M. Jorgensen Co. Original test report for the order shown below.

EMJ SID#:S956534 CUSTOMER:METALEX MFG P.O:64752-BL-5681 CUST. PART#:ITEM 2 QTY: 7.657 DATE:06-05-26 SIGNATURE:

CHARTER WIRE
A Division of Charter Manufacturing Co., Inc.
114 N. Jackson Street
Milwaukee, Wisconsin 53202-6297
(414) 390-3000
(414) 390-3031 Fax

R 636656

DATE: 01/18/2006

CERTIFICATE OF MATERIAL AND SPECIFICATION

CUSTOMER: EMJ
CUSTOMER'S P.O. NO: P849582002
Customer Item: 502781
SIZE: .250 X .750
GRADE: AISI 1018
HEAT NO: cl134628

SALES ORDER NO: S42327
WORKORDER: 11011631
ITEM NO: 11070
SPEC 1: ASTM A108-93
SPEC 2:
SPEC 3:

CHEMICAL ANALYSIS: C: .1800 Mn .6700 P: .0110 S: .0270
AL .0070 B: .0002 Cr .0900 Cu .1700
Mo .0200 N: .0090 Ni .0700 Si .1500
Sn .0110 V: .0020

MILL SPECIFICATIONS: Hot Roll Source: CHARTER STEEL (USA)
Melt Source: ALTON STEEL (USA)
Casting Practice: STRAND
Killing Practice/Grainsize: SILICON KILLED COARSE GRAIN
Reduction Ratio: 145 TO 1

Job# 5681

METALEX
QA. DEPT.
ACCEPTED
DATE 6/6/06
BY KKB

P/N L143-110112
P.O.# 64752
Item# 2

HEAT ANALYSIS IS FROM THE PACKING LIST RECEIVED BY CHARTER FROM OUR RAW MATERIAL SUPPLIER.

QUALITY ASSURANCE/CONTINUOUS IMPROVEMENT MANAGER

ORIGINAL

CUSTOMER	SHIP DATE	GROSS WEIGHT	QUOTE	PACKING LIST
55230	05/31/06 SHP	3	05-1226405-	2 OF 6 TEST RESULTS
BILL TO: METALEX MFG INC	WORK ORDER		ORDER DATE 05/30/06 ORD	

DELIVERY DATE	SHIP BRANCH	BILL BRANCH	WORK ORDER
06/01/06 DEL	02-GRR	05-DAY	2P1686

SHIP TO:
METALEX MFG INC
5750 CORNELL
CINCINNATI OH 45242
01

1310 SCRIBNER NW, GRAND RAPIDS MI 49504-3287
Copper and Brass Sales
A Thyssen Krupp Materials NA company
Thyssen Krupp

CUSTOMER P.O. NUMBER	TERRITORY	ENTRY ID
64760 - BL- 5681	03	05JWZ

BUYER	INSIDE SALES
BRIAN LAWSON, P.A.	JEFF W. ZELLERS

BUYER TELEPHONE	INSIDE SALES TELEPHONE
(513)489-0539	(937)415-2620 52631

CUSTOMER SIGNATURE: DATE:

QUANTITY	ORDERED	SHIPPED
INVENTORY	0.72 LB	1.00
BILLING	1.00 PC	1.00
WAREHOUSE		1.00 PC

SHIP VIA

INTERNAL	COMPLETE	PARTIAL	CANCEL
POOL-TO 05-DAY	X		

TO CUSTOMER: OUR TRUCK/OUR DEL-CHUC
FOB: ORIG
PACKED WITH OTHER GOODS:
BILL OF LADING:
FREIGHT STATUS: PPD
FINISHED GOODS LOCATION: WARN LABEL:1012

PART DESCRIPTION 209591-7

RD SM DIA HH BRASS ROD C36000, 1/4 (+-.0015)
NO PROCESSING - 48" ML, Test Results Attn to: QA Department.
actual certs must be signed

SPECIAL INSTRUCTIONS

FILL	SCRAP	FILLED BY	PACKED BY	Q/A AND T
		WEB		

CUSTOMER RECEIVING HOURS	MAX SKID WEIGHT	LOADING INSTRUCTIONS	MAXIMUM BUNDLE WEIGHT
6:00 am - 12:00 pm	15000	CRANE, FORK	30000

BUSES	BARS	CASES	CLSHP	PKGS	SKIDS	BDLS	TUBES	CTNS	FLAT	COILS
							1			

INSPECTION RECORD

TEST RESULTS -----

CERTIFICATE OF COMPLIANCE
We hereby certify that mercury or any of its compounds are not used in the processing and distribution of our products. The products we distribute are not hazardous in their received state. For MSDS sheets go to www.copperandbrass.com/msds or call 748-[illegible]-5682. We hereby certify that the material above complies with the following specifications:
ASTM-B16
AC MAN CHEMICAL NOM PHYSICAL ROHS EXEMPT

TAG NO	QUANTITY UOM VENDOR	VEND PO HEAT/LOT	PCS	TAG NO	QUANTITY UOM VENDOR	VEND PO HEAT/LOT	PCS
[illegible]	1.00 LB	COMMONW 0CE3763 437811					

P/N 443-110113

SM [illegible] T. PARACI - General Manager, GRAND RAPIDS PRINTED 05/30/06 09:05 AM CONTROL NO 00062

COPPER AND BRASS SALES IS A DIVISION OF THYSSENKRUPP MATERIALS, INC.

• COPPER AND BRASS MILLS SEVOJNO •

SEVOJNO
SERBIA & MONTENEGRO

CERTIFICATE

No 766

DATE

CUSTOMER: METALCO CORP. New York

FORM: Brass C36o rods Quantity 4o.o34 lbs.

STANDARD: ASTM-B Material Temper

CUSTOMER'S REF: 1o7-5 Export ref. BY 9856-4

Sample No	CHEMICAL COMPOSITION (%)					MECHANICAL, METALLOGRAPHICAL AND TECHNOLOGICAL PROPERTIES					
	Cu	Pb	Fe	Zn		Tensile strength Rm PSI	Yield strength Rp0,2 PSI	Elongation A5 %	Hardness scale HB	Average grain size (mm)	Hg2 (NO3)2
	C360 Ø0,1875"x12' Ø4,762x3658mm H02 CE3773										
436311	60,00	2,80	0,23	Rest.		72000	59735	23,2			
/2						73000	60000	22,0			
	C360 Ø1/4"x12' Ø6,35x3658mm H02 CE3763										
437811	62.70	2,55	0,20	Rest.		62000	52000	26,7			
/2						61158	49280	25,3			
/3						62000	49000	23,3			
/4						64000	50000	21,3			
	C360 Ø5/16"x12' Ø7,937x3658mm H02 CE3764										
4386/1	62,00	2,95	0,25	Rest		64000	55468	17,6			
/2						58313	52000	18,9			

O:629

CONTROL'S DEPARTMENT

FO KK 10.119

CERTIFICATE OF TEST

Certification Date
26-MAY-2006

CUSTOMER ORDER NUMBER
64752-BL-5681
CUSTOMER PART NUMBER
ITEM 3

EARLE M. JORGENSEN COMPANY
601 REDNA TERRACE
P.O. BOX 15100
CINCINNATI OH 45215

Invoice Number
S956533

SOLD TO: METALEX MANUFACTURING
5750 CORNELL RD
CINCINNATI OH 45242

SHIP TO: METALEX MFG
5750 CORNELL ROAD
CINCINNATI OH 45242

Description: 1018 CF BAR ASTM A108
3/16 X 8 FLATS X 12' R/L
HEAT: 571622 ITEM: 502771

Line Total: 61.2 LB

Specifications:
ASTM A108 93

CHEMICAL ANALYSIS

C	MN	P	S	SI	AL	TI	CR
0.19	0.65	0.006	0.008	0.03	0.041	0.001	0.1

MO	CU	NI	N	B
0.028	0.21	0.07	0.007	0.0001

RCPT: R568656
MILL : CLINGAN STEEL INC COUNTRY OF ORIGIN : USA

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED IN AREA	HARDNESS RB
					83

METALEX
QA. DEPT.
ACCEPTED
DATE 6/6/06
BY KKB

Job#5681
PART# L143-11014
P.O# 64752-BL

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination.

We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes.

Material did not come in contact with mercury while in our possession.

Paul Barnhart
MANAGER, QUALITY ASSURANCE

FML017

Earle M. Jorgensen Co. Original test report for the order shown below.
EMJ SID#:S956533 CUSTOMER:METALEX MFG P.O:64752-BL-5681 CUST. PART#:ITEM:3 QTY: 61.260 DATE:06-05-26 SIGNATURE:

CLINGAN STEEL, INC.
CERTIFIED TEST REPORT

R 568656

11/10/05

TO:
EMJ CORPORATION CHICAGO
1900 MITCHELL BLVD.
SCHAUMBURG, IL 60193

SHIP TO:
EMJ CORPORATION CHICAGO
1900 MITCHELL BLVD.
SCHAUMBURG, IL 60193

Cust. P/O#: P832728-423 Part No.: 502771

STEEL, .1875 X 8.00 X 144.00

GRADE: C1018 PER ASTM A108-93 SQUARE EDGE

B/L Date 11/10/05 Bill/Ladng# 093368
Sales Ordr: 078583 01

Tag# 924451 01 Heat# 571622 MasterTag# 922078 01

C : .190	Mn: .650	P : .006	S : .008
Si: .030	Al: .041	Ti: .001	
Cr: .100	Mo: .028	Cu: .210	
Ni: .070	N : .007		B : .0001

Rockwell: B83

MELTED & MFG IN U.S.A.

Job# 5681

METALEX
QA. DEPT
ACCEPTED
DATE 6/6/06
BY KKB

Sales Ordr: 078583 01

Tag# 924452 01 Heat# 571622 MasterTag# 922078 01

C : .190	Mn: .650	P : .006	S : .008
Si: .030	Al: .041	Ti: .001	
Cr: .100	Mo: .028	Cu: .210	
Ni: .070	N : .007		B : .0001

Rockwell: B83

MELTED & MFG IN U.S.A.

P/N L143-110114
P.O.# 64752

Continued...

Earle M. Jorgensen Co. Original test report for the order shown below.

EMJ SID#:S956533 CUSTOMER:METALEX MFG P.O:64752-BL-5681 CUST. PART#:ITEM 3 QTY: 61.260 DATE:06-05-26 SIGNATURE:

CLINGAN STEEL, INC.
CERTIFIED TEST REPORT

11/10/05

TO:
EMJ CORPORATION CHICAGO
1900 MITCHELL BLVD.
SCHAUMBURG, IL 60193

SHIP TO:
EMJ CORPORATION CHICAGO
1900 MITCHELL BLVD.
SCHAUMBURG, IL 60193

Cust. P/O#: P832728-423 Part No.: 502771

STEEL, .1875 X 8.00 X 144.00

GRADE: C1018 PER ASTM A108-93 SQUARE EDGE

B/L Date 11/10/05 Bill/Ladng# 093368

906#5681

METALEX
QA. DEPT.
ACCEPTED
DATE 6/6/06
BY KKB

P/N L143-110114
P.O # 64752
Item # 3

WE HEREBY CERTIFY THE ABOVE FIGURES ARE ACCURATELY STATED, MEET YOUR MATERIAL REQUIREMENTS AND ARE TRACEABLE IN OUR RECORDS.

CLINGAN STEEL, INC.
QUALITY ASSURANCE MANAGER

QMF 17

CUSTOMER	SHIP DATE	GROSS WEIGHT	QUOTE	3 OF 6	PACKING LIST
55230	06/01/06 SHP	22	05-1226405-	TEST RESULTS	
BILL TO: METALEX MFG INC		WORK ORDER **	ORDER DATE 05/30/06 ORD		

DELIVERY DATE	SHIP BRANCH	SELL BRANCH	WORK ORDER
06/01/06 DEL	05-DAY	05-DAY	5R2157

SHIP TO

METALEX MFG INC 01
5750 CORNELL
CINCINNATI OH 45242

6700 POE AVENUE, DAYTON OH 45414-2590
Copper and Brass Sales
A ThyssenKrupp Materials NA company
ThyssenKrupp

CUSTOMER P.O. NUMBER	TERRITORY	ENTRY ID
64760 - BL- 5681	03	05JWZ

BUYER	INSIDE SALES
BRIAN LAWSON, P.A.	JEFF W. ZELLERS

BUYER TELEPHONE	INSIDE SALES TELEPHONE
(513)489-0539	(937)415-2620 52631

CUSTOMER SIGNATURE: DATE:

QUANTITY	ORDERED	SHIPPED
INVENTORY	21.17 LB	21.00
BILLING	2.00 PC	2.00
WAREHOUSE		2.00 PC

SHIP VIA

INTERNAL	COMPLETE	PARTIAL	CANCEL
	X		

SHIPPING STATUS

TO CUSTOMER: OUR TRUCK/OUR DEL-D1
FOB: ORIG
BILL OF LADING:
FREIGHT STATUS: PPD
PACKED WITH OTHER GOODS:
FINISHED GOODS LOCATION: WARN LABEL:1001

PART DESCRIPTION 019980-2

RECT 6061-T6511 EXTR ALUMINUM BAR, 1/2(+/-.009)X 1-1/2 (+/-.014) X 12 FT ML
NO PROCESSING - 144" ML, Test Results Attn to: QA Department.
actual certs must be signed

Item 4

SPECIAL INSTRUCTIONS

FILL	SCRAP	FILLED BY	PACKED BY	QA AUDIT
		KEN		

CUSTOMER RECEIVING HOURS	MAX SKID WEIGHT	LOADING INSTRUCTIONS	MAXIMUM BUNDLE WEIGHT
6:00 am - 12:00 pm	15000	CRANE, FORK	30000

BOXES	BARS	CASES	CUSHP	PKGS	SKIDS	BDLS	TUBES	CTNS	FLAT	COILS
						1				

INSPECTION RECORD

TEST RESULTS -----

CERTIFICATE OF COMPLIANCE
We hereby certify that mercury or any of its compounds are not used in the processing and distribution of our products. The products we distribute are not hazardous in their received state. For MSDS sheets go to www.copperandbrass.com/msds or call 248-233-5682. We hereby certify that the material above complies with the following specifications:
ASTM-B221 AMS-QQ-A-200/8
ROHS COMPLIANT

P.P.d

TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS	TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS
306946-00	2.00	PC	KAISER		0CI6601 348 057	2							

METALEX QA. DEPT. ACCEPTED DATE 6/22/06 BY KKB

RECEIVED JUN 01 2006 METALEX MFG. BY S.W

SCOTT T. MARLIN - General Manager: DAYTON PRINTED 05/30/06 09:31 PM CONTROL NO 00042

COPPER AND BRASS SALES IS A DIVISION OF THYSSENKRUPP MATERIALS, INC.

P/N C143-110115

KAISER ALUMINUM
MATERIAL CERTIFICATION
COPPER & BRASS SALES
CUSTOMER PICK-UP
6700 POE AVE
DAYTON, OH 45414

PAGE 1

AISER ALUMINUM
111 S 74 E Ave

ulsa, OK 74145

OPPER & BRASS SALES
OUTHFIELD MI 48086 CI6601 01/19/06
OLD TO PURCHASE ORDER DATE PRINTED

OLD TO PURCHASE ORDER DATE PRINTED

019980-2 0.500 X 1.500 SQ COR RECT BAR
USTOMER PART NUMBER DESCRIPTION

803448-001	348 057	6061-T6511
RELEASE-ITEM	LOT	ALLOY/TEMPER

MECHANICAL PROPERTY RESULTS

EFERENCE	SAMPLE#	UTS(KSI)	YTS(KSI)	%Elong in 2"	HARDNESS	CONDUCT.	BEND
48 057	0001 0001	51.3	48.0	16.2		N/A	N/A
48 057	0001 0002	50.6	47.6	15.8		N/A	N/A
48 057	0001 0003	50.5	47.4	16.5		N/A	N/A

CHEMICAL COMPOSITION (WT%), ALUMINUM REMAINDER

061 LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Others Ea	Others Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00

P.O.# 64760 Item# 4

METALEX MTX QC 18
QA. DEPT.
ACCEPTED
DATE 6/22/06
BY KKB

PPLICABLE REQUIREMENTS:

STM-B221-02-STENCILED
SME-SB221 1998 SECT II
IS-QQ-A-200/8
IS#95061

Kaiser Aluminum & Chemical Corp. ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file, subject to examination.

P/N C143-110115

CERTIFICATE OF TEST

Certification Date
26-MAY-2006

CUSTOMER ORDER NUMBER
64752-BL-5681

CUSTOMER PART NUMBER
501059

EARLE M. JORGENSEN COMPANY
601 REDNA TERRACE
P.O. BOX 15100
CINCINNATI OH 45215

Invoice Number
S956532

SOLD TO: METALEX MANUFACTURING
5750 CORNELL RD
CINCINNATI OH 45242

SHIP TO: METALEX MFG
5750 CORNELL ROAD
CINCINNATI OH 45242

Description: 1018 CF BAR ASTM A108
1/2 RD X 12' R/L
HEAT: 745271 ITEM: 501059

Line Total: 8 LB

Specifications:
ASTM A108 99

CHEMICAL ANALYSIS

C	MN	SI	S	P
0.19	0.79	0.22	0.04	0.01

RCPT: R261809
MILL : NUCOR COLD FINISH

COUNTRY OF ORIGIN : USA

Item#4
METALEX
QA. DEPT.
ACCEPTED
DATE 6/12/06
BY KKB

Job# 5681
Part# L143-110119
P.O# 64752-BL

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination.

We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes.

Material did not come in contact with mercury while in our possession.

Paul Barnhart
MANAGER, QUALITY ASSURANCE

PML017

MILL TEST REPORT

NUCOR COLD FINISH
A DIVISION OF NUCOR CORPORATION
2800 N. GOVERNOR WILLIAMS HIGHWAY
DARLINGTON, SOUTH CAROLINA 29540
FAX 843-395-8759
TELEPHONE 843-395-8689

PAGE-1

CUSTOMER P.O.
BILL OF LADING P746700001-126
009587

DATE 12/01/04

SOLD TO

EARLE M. JORGENSEN STEEL
601 REDNA TERRACE
BOX 15100
CINCINNATI, OH
45215

SHIP TO

EARLE M. JORGENSEN STEEL
601 REDNA TERRACE
BOX 15100
CINCINNATI, OH
45215

GRADE	SIZE	PROD	HEAT NO.	C	Mn	Si	S	P	V	Cu	Ni	Cr	Mo	Pb	CUST. PART #
1018	1/2	RD	742923	.19	.84	.27	.030	.010							501059
1018	1/2	RD	745271	.19	.79	.22	.040	.010							501059
															R261809

PHYSICAL PROPERTIES

GRADE	SIZE	PROD	HEAT NO.	YIELD (ksi)	TENSILE (ksi)	El% (in 2")	ROA %	HARDNESS (SCALE)	COMMENTS

SPECIAL INSTRUCTIONS:

ROUNDS UP TO & INCLUDING 2.5" ARE 100% EDDY CURRENT TESTED
COUNTRY OF ORIGIN FOR 12L14 MATERIAL:

P/N L143-110119
P.O. # 64752
Item#4

Job#5681
METALEX
QA. DEPT
ACCEPTED
DATE 6/13/06
BY KRB

TERRY CIESLINSKI

QUALITY ASSURANCE METALLURGIST
ALL COLD DRAWN CARBON STEEL LISTED ABOVE MEETS ASTM A108-99 SPECIFICATIONS.
ALL COLD DRAWN ALLOY STEEL LISTED ABOVE MEETS ASTM A331-95 (REAPP2000) SPECIFICATIONS.
ALL COLD DRAWN STRESS RELIEVED STEEL LISTED ABOVE MEETS ASTM A311-B95 (REAPP2000) SPECIFICATIONS.

DATE: 5-7-03 / REVISION: 4 / APPROVED: TLC

CUSTOMER COPY

06-02-2006 12:42 SARA KANE 513-771-1767

Date.08/15/06

Job#5681/5725

METALEX QA. DEPT. QC 18
ACCEPTED
DATE 8/22/06
BY KKB

Certificate of Compliance

METALEX
5750 CORNELL RD.
CINCINNATI, OH 45242

To METALEX Quality Assurance,

This is to certify that ***321*** pieces of Part No. ***L143-110703*** covered by your P.O. No. ***65852-BL*** have been manufactured and inspected to the highest standards in accordance with all specifications stated on supplied print and P.O.

Hi-Tech Manufacturing
4637 North 25th Avenue
Schiller Park, Illinois 60176
JOSEPH J. BOURKE

HI-TECH Manufacturing Inc.

INSPECTION REPORT

PART# L143-110703 REV# — DESCRIPTION: PEAK FILED SHIM

JOB # 52669 CUSTOMER : ARGONNE DATE 08-08-06

QUANTITY: 300 PCS INSPECTED BY: ILYA SAMPLE SIZE 10 Pcs

Inspection Report First Article

Inspected Criteria		Inspection Results	Disposition	
#	Inspected Dimension	Range	Accepted	Rejected
1	9. 0 +0 /-0.1	8.915 – 8.9948	✓	
2	6.2 +0.1 / -0	6.108 -6.0706	✓	
3	2X156.5 +0.5 /-0 DEGREE	2X158.0 – 158.5	✓	
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

Remarks : Decimal:. Accepted by Emil Trachtenberg

Form IR Rev. 08/98

PRECISION BRAND

ISO 9001:2000 Certified Company

PRECISION BRAND PRODUCTS, INC.
2250 CURTISS STREET
DOWNERS GROVE, IL 60515 USA
PHONE: (630) 969-7200 FAX: (630) 969-0310

PO# 65853-BL
J+L Industrial
Michelle Lafferty

Wednesday, 07/26/2006

This is to certify that to the best of our knowledge and belief, all values shown below are correct and true and the material complies with the specifications shown.

J&L Part Number
PBP-44505M
BL 7-26-06
Job#5681/5725

METALEX
QA. DEPT
ACCEPTED
DATE 8/9/06
BY KKB

COLOR CODED SHIM

.0005 - .005 POLYESTER
.0075 - .060 POLYVINYL CHLORIDE (PVC)

	.0005 - .005	.0075 - .030	.040 - .060
TENSILE STRENGTH	30,000 PSI	6,600 PSI	14,000 PSI
ULTIMATE ELONGATION	90%	180%	180%
FOLDING ENDURANCE (MIT)	>100,000	37,000	37,000
TEAR STRENGTH (ELMENDORF)	20 g/mil	--	--
MOISTURE ABSORPTION	0.8%	0.15%	0.15%
THICKNESS TOLERANCE	+/- 5%	+/- 5%	+/- 5%
COMPRESSION @ 5,000 PSI	1.0%	0.7%	0.7%
SERVICE TEMPERATURE	-90ΘF - 300ΘF	-10ΘF - 155ΘF	-10ΘF - 155ΘF
MEETS SPECIFICATION:	L-P-377	L-P-535	L-P-535

P/N L143-110704

www.precisionbrand.com

PACKING LIST

CUSTOMER	SHIP DATE	GROSS WEIGHT	QUOTE	
55230	05/31/06 SHP	180	05-1226405-	4 OF 6

BILL TO: METALEX MFG INC

WORK ORDER **

ORDER DATE 05/30/06 ORD

DELIVERY DATE	SHIP BRANCH	SELL BRANCH	WORK ORDER
06/01/06 DEL	31-ELK	05-DAY	VM2796

SHIP TO:
METALEX MFG INC 01
5750 CORNELL
CINCINNATI OH 45242

58144 CHARLOTTE AVE, ELKHART IN 46517
Copper and Brass Sales
A ThyssenKrupp Materials NA company
ThyssenKrupp

CUSTOMER P.O. NUMBER	TERRITORY	ENTRY ID
64760 - BL- 5681	03	05JWZ

BUYER	INSIDE SALES
BRIAN LAWSON, P.A.	JEFF W. ZELLERS

BUYER TELEPHONE	INSIDE SALES TELEPHONE
(513)489-0539	(937)415-2620 52631

CUSTOMER SIGNATURE: DATE

QUANTITY	ORDERED	SHIPPED
INVENTORY	159.42 LB	160.00
BILLING	15.00 PC	15.00
WAREHOUSE		15.00 PC

SHIP VIA / SHIPPING STATUS

INTERNAL	COMPLETE	PARTIAL	CANCEL
POOL-TO 05-DAY	X		

TO CUSTOMER: OUR TRUCK/OUR DEL-D1

FOB: ORIG

FREIGHT STATUS: PPD

BILL OF LADING

PACKED WITH OTHER GOODS

FINISHED GOODS LOCATION

PART DESCRIPTION 0884007-2

CAST ALUMINUM TOOLING PLATE, 2.500 (+-.005)
SAW 5.25" (+.064,-0) X 7.937" (+.064,-0), actual certs must be signed

Item 5

METALEX MTX QC 18
QA. DEPT.
ACCEPTED
DATE 6/22/06
BY KKB

SPECIAL INSTRUCTIONS

FULL	SCRAP	FILLED BY	PACKED BY	Q/A AUDIT
		DW		

CUSTOMER RECEIVING HOURS	MAX SKID WEIGHT	LOADING INSTRUCTIONS	MAXIMUM BUNDLE WEIGHT
6:00 am - 12:00 pm	15000	CRANE, FORK	30000

BOXES	BARS	CASES	CUSHP	PKGS	SKIDS	BDLS	TUBES	CTNS	FLAT	COILS
					1					

INSPECTION RECORD

CERTIFICATE OF COMPLIANCE
We hereby certify that mercury or any of its compounds are not used in the processing and distribution of our products. The products we distribute are not hazardous in their received state. For MSDS sheets go to www.copperandbrass.com/msds or call 248-233-5682. We hereby certify that the material above complies with the following specifications:

ROHS COMPLIANT

P.P.d

TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS	TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS
J03190 11	3.00	PC	ALCOA M	0CF9934	#9249		D72291 11	3.00	PC	ALCOA M	0C96029	9096	
G62814 02	2.00	PC	ALCOA M	0CC7051	9182		H60667 20	3.00	PC	ALCOA M	0CE6083	9217	
F69530 15	2.00	PC	ALCOA M	0CB9428	9148		N08971 14	2.00	PC	ALCOA M	0CJ9757	9286	

Del

Job# 5681
PART# L143-110801
& L143-110901

6/2

RECEIVED
JUN 01 2006
METALEX MFG.
BY S.W.

STEVEN J. FARACI · General Manager: ELKHART PRINTED 05/30/06 03:32 PM CONTROL NO 00050

COPPER AND BRASS SALES IS A DIVISION OF THYSSENKRUPP MATERIALS, INC.

P.O# 64760-BL

PACKING LIST

CUSTOMER	SHIP DATE	GROSS WEIGHT	QUOTE	
55230	05/31/06 SHP	2421	05-1226405-	6 OF 6

ORDER DATE: 05/30/06 ORD

BILL TO: METALEX MFG INC

WORK ORDER: **

DELIVERY DATE	SHIP BRANCH	SELL BRANCH	WORK ORDER
06/01/06 DEL	31-ELK	05-DAY	VM2798

SHIP TO:
METALEX MFG INC 01
5750 CORNELL
CINCINNATI OH 45242

58144 CHARLOTTE AVE, ELKHART IN 46517
Copper and Brass Sales
A ThyssenKrupp Materials NA company
ThyssenKrupp

CUSTOMER P.O. NUMBER	TERRITORY	ENTRY ID
64760 - BL- 5681	03	05JWZ

BUYER	INSIDE SALES
BRIAN LAWSON, P.A.	JEFF W. ZELLERS
BUYER TELEPHONE	INSIDE SALES TELEPHONE
(513)489-0539	(937)415-2620 52631

CUSTOMER SIGNATURE: DATE:

QUANTITY	ORDERED	SHIPPED
INVENTORY	2391.31 LB	2381.00
BILLING	45.00 PC	45.00
WAREHOUSE		45.00 PC

SHIP VIA	SHIPPING STATUS		
INTERNAL: POOL-TO 05-DAY	COMPLETE: X	PARTIAL	CANCEL

TO CUSTOMER: OUR TRUCK/OUR DEL-D1
FOB: ORIG
PACKED WITH OTHER GOODS:
BILL OF LADING:
FREIGHT STATUS: PPD
FINISHED GOODS LOCATION:

PART DESCRIPTION 0884-07-2

CAST ALUMINUM TOOLING PLATE, 2.500 (+-.005)
SAW 5.25" (+.064,-0) X 39.812", (+.064,-0)
actual certs must be signed

Item 7

METALEX
QA. DEPT. MTX
QC 18
ACCEPTED
DATE 6/22/06
BY KKB

SPECIAL INSTRUCTIONS

FULL	SCRAP	FILLED BY	PACKED BY	QA AUDIT
		HS		

CUSTOMER RECEIVING HOURS	MAX SKID WEIGHT	LOADING INSTRUCTIONS	MAXIMUM BUNDLE WEIGHT
6:00 am - 12:00 pm	15000	CRANE, FORK	30000

BOXES	BARS	CASES	CUSHP	PKGS	SKIDS	BDLS	TUBES	CTNS	FLAT	COILS
					1					

INSPECTION RECORD

CERTIFICATE OF COMPLIANCE
We hereby certify that mercury or any of its compounds are not used in the processing and distribution of our products. The products we distribute are not hazardous in their received state. For MSDS sheets go to www.copperandbrass.com/msds or call 248-233-5682. We hereby certify that the material above complies with the following specifications:

P.P.D

ROHS COMPLIANT

TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS
N43922 01	33.00	PC	ALCOA M	0CK5444	9283	
N55627 02	6.00	PC	ALCOA M	0CK7268	9283	
N55627 01	6.00	PC	ALCOA M	0CK7268	9283	

Job# 5681
PART# L143-111001
&
L143-111101
P.O# 64760-BL

Del
RECEIVED
JUN 01 2006
METALEX MFG.
BY S.W.

STEVEN J. FARACI - General Manager: ELKHART PRINTED 05/30/06 03:32 PM CONTROL NO 00052

COPPER AND BRASS SALES IS A DIVISION OF THYSSENKRUPP MATERIALS, INC.

CUSTOMER	SHIP DATE	GROSS WEIGHT	QUOTE		PACKING LIST
55230	05/31/06 SHP	164	05-1226405-	5 OF 6	
BILL TO: METALEX MFG INC		WORK ORDER **	ORDER DATE 05/30/06 ORD		

DELIVERY DATE	SHIP BRANCH	SELL BRANCH	WORK ORDER
06/01/06 DEL	31-ELK	05-DAY	VM2797

SHIP TO

METALEX MFG INC 01
5750 CORNELL
CINCINNATI OH 45242

58144 CHARLOTTE AVE, ELKHART IN 46517

Copper and Brass Sales
A ThyssenKrupp Materials NA company
ThyssenKrupp

CUSTOMER P.O. NUMBER	TERRITORY	ENTRY ID
64760 - BL- 5681	03	05JWZ

BUYER	INSIDE SALES
BRIAN LAWSON,P.A.	JEFF W. ZELLERS

BUYER TELEPHONE	INSIDE SALES TELEPHONE
(513)489-0539	(937)415-2620 52631

CUSTOMER SIGNATURE: DATE:

QUANTITY	ORDERED	SHIPPED
INVENTORY	154.42 LB	154.00
BILLING	15.00 PC	15.00
WAREHOUSE		15.00 PC

SHIP VIA / SHIPPING STATUS

INTERNAL	COMPLETE	PARTIAL	CANCEL
POOL-TO 05-DAY	X		

TO CUSTOMER	FOB	PACKED WITH OTHER GOODS
OUR TRUCK/OUR DEL-D1	ORIG	

BILL OF LADING	FREIGHT STATUS	FINISHED GOODS LOCATION
	PPD	

PART DESCRIPTION 088407-2

CAST ALUMINUM TOOLING PLATE, 2.500 (+-.005)
SAW 5.25" (+.064,-0) X 7.687" (+.064,-0), actual certs must be signed

Item 6

METALEX MTX
QA. DEPT. QC 18
ACCEPTED
DATE 6/22/06
BY KKB

SPECIAL INSTRUCTIONS

FULL	SCRAP	FILLED BY	PACKED BY	Q/A AUDIT
		DW		

CUSTOMER RECEIVING HOURS	MAX SKID WEIGHT	LOADING INSTRUCTIONS	MAXIMUM BUNDLE WEIGHT
6:00 am - 12:00 pm	15000	CRANE, FORK	30000

BOXES	BARS	CASES	CUSHP	PKGS	SKIDS	BDLS	TUBES	CTNS	FLAT	COILS
					1					

INSPECTION RECORD

CERTIFICATE OF COMPLIANCE
We hereby certify that mercury or any of its compounds are not used in the processing and distribution of our products. The products we distribute are not hazardous in their received state. For MSDS sheets go to www.copperandbrass.com/msds or call 248-233-5682. We hereby certify that the material above complies with the following specifications:

ROHS COMPLIANT

P.P.D
DeL

TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS	TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS
D60958 14	2.00	PC	ALCOA M	0C96028	9096		C54216 07	1.00	PC	PECHINE	0C38989	145800	
C54216 08	1.00	PC	PECHINE	0C38989	145800		D05456 13	4.00	PC	PECHINE	0C84984	148201	
D08802 07	4.00	PC	ALCOA M	0C88592	9061		E13235 12	3.00	PC	ALCOA M	[illegible]		

Job# 5681
PART# L143-111301
&
L143-111201

RECEIVED
JUN 01 2006
METALEX MFG.
BY S.W

STEVEN J. FARACI - General Manager: ELKHART PRINTED 05/30/06 03:32 PM CONTROL NO 00051

P.O# 64760-BL

COPPER AND BRASS SALES IS A DIVISION OF THYSSENKRUPP MATERIALS, INC.

CUSTOMER	SHIP DATE	GROSS WEIGHT	QUOTE	PACKING LIST
55230	06/01/06 SHP	35	05-1226405-	1 OF 6 TEST RESULTS
			ORDER DATE 05/30/06 ORD	

BILL TO	WORK ORDER	DELIVERY DATE	SHIP BRANCH	SELL BRANCH	WORK ORDER
METALEX MFG INC	**	06/01/06 DEL	05-DAY	05-DAY	5R2156

SHIP TO

METALEX MFG INC 01
5750 CORNELL
CINCINNATI OH 45242

6700 POE AVENUE, DAYTON OH 45414-2590
Copper and Brass Sales
A ThyssenKrupp Materials NA company
ThyssenKrupp

CUSTOMER P.O. NUMBER	TERRITORY	ENTRY ID
64760 - BL- 5681	03	05JWZ

BUYER	INSIDE SALES
BRIAN LAWSON, P.A.	JEFF W. ZELLERS

BUYER TELEPHONE	INSIDE SALES TELEPHONE
(513)489-0539	(937)415-2620 52631

CUSTOMER SIGNATURE: DATE:

QUANTITY	ORDERED	SHIPPED
INVENTORY	35.28 LB	35.00
BILLING	1.00 PC	1.00
WAREHOUSE		1.00 PC

SHIP VIA	SHIPPING STATUS		
INTERNAL	COMPLETE X	PARTIAL	CANCEL

TO CUSTOMER	FOB	PACKED WITH OTHER GOODS
OUR TRUCK/OUR DEL-D1	ORIG	

BILL OF LADING	FREIGHT STATUS	FINISHED GOODS LOCATION
	PPD	WARN LABEL:1001

PART DESCRIPTION 020354-7

RECT 6061-T6511 EXTR ALUMINUM BAR, 1-1/4 (+/-.012) X 2 (+/.024) X 12 FT ML
NO PROCESSING - 144" ML, Test Results Attn to: QA Department.
actual certs must be signed

Item 2

METALEX MFG
QA. DEPT.
ACCEPTED
DATE 6/22/06
BY RKB

SPECIAL INSTRUCTIONS

FILL	SCRAP	FILLED BY	PACKED BY	Q/A AUDIT
		KEN		

CUSTOMER RECEIVING HOURS	MAX SKID WEIGHT	LOADING INSTRUCTIONS	MAXIMUM BUNDLE WEIGHT
6:00 am - 12:00 pm	15000	CRANE, FORK	30000

BOXES	BARS	CASES	CUSHP	PKGS	SKIDS	BDLS	TUBES	CTNS	FLAT	COILS
	1									

INSPECTION RECORD

TEST RESULTS -----

CERTIFICATE OF COMPLIANCE
We hereby certify that mercury or any of its compounds are not used in the processing and distribution of our products. The products we distribute are not hazardous in their received state. For MSDS sheets go to www.copperandbrass.com/msds or call 248-233-5682. We hereby certify that the material above complies with the following specifications:

ASTM-B221 AMS-QQ-A-200/8

ROHS COMPLIANT

TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS	TAG NO	QUANTITY	UOM	VENDOR	VEND PO	HEAT/LOT	PCS
384745 00	1.00	PC	KAISER	0CJ8649	686 181	1							

P.A.J

Job # 5687
PART # L143-110109
L143-110110
P.O # 64760-

Del
6/2

RECEIVED
JUN 01 2006
METALEX MFG.
BY S.W

SCOT T. MARLIN - General Manager: DAYTON PRINTED 05/30/06 09:27 PM CONTROL NO 00047

COPPER AND BRASS SALES IS A DIVISION OF THYSSENKRUPP MATERIALS, INC.

P/N L143-110109
-110110

KAISER ALUMINUM
FABRICATED PRODUCTS

CERTIFIED TEST REPORT

http://www.KaiserAluminum.com

KAISER ALUMINUM
FABRICATED PRODUCTS
9700 SOUTH HARLEM AVE
BRIDGEVIEW, IL 60455

CUSTOMER PO NUMBER:	CUSTOMER PART NUMBER:	PRODUCT DESCRIPTION:		
CJ8649	020354-7/STK	1.250 X 2.000 RECT BAR		
KAISER ORDER NUMBER:	LINE ITEM:	SHIP DATE:	KAISER LOT NUMBER:	ALLOY:	TEMPER:
983437	001	05/01/2006	686 181	6061	T6511
WEIGHT SHIPPED:	QUANTITY:	B/L NUMBER:	DIAM/DAF/THKNS:	WIDTH:	LENGTH:
2116.000 LB	80.000 PCS	932309			12.000 FT

SHIP TO:	SOLD TO:
COPPER & BRASS SALES 6700 POE AVENUE DAYTON, OH 45414 USA	COPPER & BRASS SALES PO BOX 5116 SOUTHFIELD, MI 48086-5116 USA

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS(KSI)	YTS(KSI)	%Elong in 2	HARDNESS	CONDUCT.	BEND
XTR045096	0001	0001	55.3	51.7	12.6		N/A	N/A
XTR045096	0001	0002	54.1	50.6	12.6		N/A	N/A
XTR045096	0001	0003	55.2	51.6	12.6		N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.9	0.7	0.40	0.15	1.2	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40		0.15		0.8	0.04			NA	NA	NA		

APPLICABLE REQUIREMENTS:

ASTM-B221-02-STENCILED ASME-SB221 1998 SECT II AMS-QQ-A-200/8 UNS#96061

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA

METALEX MTX
QA. DEPT. OC 18
ACCEPTED
DATE 6/22/06
BY KKB

CERTIFICATION

Kaiser Aluminum & Chemical Corp. ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the descripti on set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file, subject to examination.

Frank E. Watson, Quality Assurance Manager

Plant Serial: 00139734

Kaiser Order Number: 983437

Line Item: 001

P/N 443-110108
-110110

7 METALEX MANUFACTURING INC
5750 CORNELL RD
CINCINNATI OH 45242

(CALLER) BRIAN LAWSON

YOUR PURCHASE ORDER NUMBER
64792-BL-5681

Today's Date: 6/02/06

MCMASTER-CARR
200 AURORA INDUSTRIAL PKWY
AURORA OH 44202

IF THERE ARE ANY QUESTIONS ABOUT THIS SHIPMENT CONTACT OUR SALES DEPARTMENT
(330)995-5500

MCM NUMBER
8294515-02

Warehouse Location	McMaster Carr Part Number	Fill Quantity	Item Description	Your Line	Your Order	This Shipment
1-295-01 05-82	91290 A330	3 PK	METRIC CLASS 12.9 ALLOY SOCKET HEAD CAP SCREW M6 THREAD,25 MM LENGTH,1 MM PITCH PKG= 100 EA/PK 5 L143-110111	7	3 PK	3
		*****	Information about the rest of your order		*****	
	92185 A151		316 STAINLESS STEEL SOCKET HEAD CAP SCREW Shipped 80 PK today from this McMaster-Carr warehouse Shipped 173 PK today from another McMaster-Carr warehouse	8	253 PK	
	92146 A545		18-8 STAINLESS STEEL SPRING LOCK WASHER Shipped 32 PK today from this McMaster-Carr warehouse	9	32 PK	
	92196 A197		18-8 STAINLESS STEEL SOCKET HEAD CAP SCREW Shipped 32 PK today from this McMaster-Carr warehouse	10	32 PK	
	98437 A104		18-8 SS SPRING WASHER FOR SCKT-HEAD CAP SCREW Shipped 64 PK today from this McMaster-Carr warehouse	11	64 PK	
	98017 A690		18-8 STAINLESS STEEL AN 960 FLAT WASHER Shipped 9 PK today from this McMaster-Carr warehouse CERTIFICATE OF COMPLIANCE -This is to certify the above item(s) on your purchase order was supplied in accordance with the description and as illustrated in the catalog. Compliance Manager- Alberto Valedon	12	9 PK	

RECEIVED
JUN 05 2006
METALEX MFG.
BY CD

METALEX
QA. DEPT.
ACCEPTED
DATE 6/13/06
BY KKB

WEIGHT 70

7 8294515-02 1
METALEX MANUFACTURING INC

MCMASTER-CARR
WAREHOUSE INSTRUCTIONS
LNS

PURCHASE ORDER
64792-BL-5681

CYCLE
020

PRT523

6/02/06 09:08 159 00004

CCP

METALEX MANUFACTURING INC
3750 CORNELL RD
CINCINNATI OH 45242

(CALLER) BRIAN LAWSON

YOUR PURCHASE ORDER NUMBER
64792-BL-5681
Today's Date: 6/02/06

MCMASTER-CARR
200 AURORA INDUSTRIAL PKWY
AURORA OH 44202

IF THERE ARE ANY QUESTIONS ABOUT THIS SHIPMENT CONTACT OUR SALES DEPARTMENT
(330)995-5500

MCM NUMBER
8294515-01

Warehouse Location	McMaster Carr Part Number	Fill Quantity	Item Description	Your Line	Your Order	This Shipment
	91292 A156		METRIC 18-8 SS SOCKET HEAD CAP SCREW Shipped 92 PK today from another McMaster-Carr warehouse	6	92 PK	
	91290 A330		METRIC CLASS 12.9 ALLOY SOCKET HEAD CAP SCREW Shipped 3 PK today from another McMaster-Carr warehouse	7	3 PK	
	92146 A545		18-8 STAINLESS STEEL SPRING LOCK WASHER Shipped 32 PK today from another McMaster-Carr warehouse	9	32 PK	
	92196 A197		18-8 STAINLESS STEEL SOCKET HEAD CAP SCREW Shipped 32 PK today from another McMaster-Carr warehouse	10	32 PK	
	98437 A104		18-8 SS SPRING WASHER FOR SCKT-HEAD CAP SCREW Shipped 64 PK today from another McMaster-Carr warehouse	11	64 PK	
	98017 A690		18-8 STAINLESS STEEL AN 960 FLAT WASHER Shipped 9 PK today from another McMaster-Carr warehouse CERTIFICATE OF COMPLIANCE -This is to certify the above item(s) on your purchase order was supplied in accordance with the description and as illustrated in the catalog. Compliance Manager- Alberto Valadon	12	9 PK	

METALEX
QA. DEPT.
ACCEPTED
DATE 6/13/06
BY KKB

RECEIVED
JUN 0 5 2006
METALEX MFG.
BY

WEIGHT 19

1 8294515-01 3
METALEX MANUFACTURING INC

MCMASTER-CARR
WAREHOUSE INSTRUCTIONS
LNS

PURCHASE ORDER
64792-BL-5681

CYCLE
017

PRTAK
PT001PR

6/02/06 09:15 514 00021

CCP

5 METALEX MANUFACTURING INC
5750 CORNELL RD
CINCINNATI OH 45242

CALLER) BRIAN LAWSON

YOUR PURCHASE ORDER NUMBER
64792-BL-5681
Today's Date: 6/02/06

MCMASTER-CARR
200 AURORA INDUSTRIAL PKWY
AURORA OH 44202

IF THERE ARE ANY QUESTIONS ABOUT THIS SHIPMENT CONTACT OUR SALES DEPARTMENT
(330)995-5500

MCM NUMBER
8294515-03

Warehouse Location	McMaster Carr Part Number	Fill Quantity	Item Description	Your Line	Your Order	This Shipment
		*****	Information about the rest of your order		*****	
	91292 A122		METRIC 18-8 SS SOCKET HEAD CAP SCREW Shipped 1 PK today from this McMaster-Carr warehouse	1	1 PK	
	91292 A135		METRIC 18-8 SS SOCKET HEAD CAP SCREW Shipped 1 PK today from this McMaster-Carr warehouse	2	1 PK	
	91292 A136		METRIC 18-8 SS SOCKET HEAD CAP SCREW Shipped 5 PK today from this McMaster-Carr warehouse	3	5 PK	
	91292 A139		METRIC 18-8 SS SOCKET HEAD CAP SCREW Shipped 2 PK today from this McMaster-Carr warehouse	4	2 PK	
	91292 A147		METRIC 18-8 SS SOCKET HEAD CAP SCREW Shipped 2 PK today from this McMaster-Carr warehouse	5	2 PK	
	91292 A156		METRIC 18-8 SS SOCKET HEAD CAP SCREW Shipped 92 PK today from this McMaster-Carr warehouse	6	92 PK	
	91290 A330		METRIC CLASS 12.9 ALLOY SOCKET HEAD CAP SCREW Shipped 3 PK today from this McMaster-Carr warehouse CERTIFICATE OF COMPLIANCE -This is to certify the above item(s) on your purchase order was supplied in accordance with the description and as illustrated in the catalog. Compliance Manager- Alberto Valedon	7	3 PK	

METALEX
QA. DEPT.
ACCEPTED
DATE 6/13/06
BY KKB

RECEIVED
JUN 05 2006
METALEX MFG.
BY

WEIGHT 32

5 8294515-03 9
METALEX MANUFACTURING INC

MCMASTER-CARR
WAREHOUSE INSTRUCTIONS
LNS

PURCHASE ORDER
64792-BL-5681

CYCLE
020

PRT545

6/02/06 09:08 916 00014

CCP

5 METALEX MANUFACTURING INC
5750 CORNELL RD
CINCINNATI OH 45242

CALLER) BRIAN LAWSON

YOUR PURCHASE ORDER NUMBER
64792-BL-5681
Today's Date: 6/02/06

MCMASTER-CARR
200 AURORA INDUSTRIAL PKWY
AURORA OH 44202
IF THERE ARE ANY QUESTIONS ABOUT THIS SHIPMENT CONTACT OUR SALES DEPARTMENT
(330)995-5500

MCM NUMBER
8294515-03

WAREHOUSE INSTRUCTIONS

VERIFIED LARGE QTYS

METALEX
QA. DEPT
ACCEPTED
DATE 6/13/06
BY KKB

916

08973400 6/02/06 09:08 8294515-03 9 LNS
METALEX MANUFACTURING INC
6015732704276

REFER TO:
CCP
LNS

PACKER	Number of CARTONS	FILLER

916 LNS: 5 WEIGHT 1 32

CYCLE
020

MCM NO. 8294515-03 9 06

LEX

PURCHASE ORDER
64792-BL-5681

FROM:
MCMASTER-CARR
200 AURORA INDUSTRIAL PKWY
AURORA OH 44202 USA

SHIP TO:

METALEX MANUFACTURING INC
BLUE ASH INDUSTRIAL PARK
5750 CORNELL RD
CINCINNATI OH
45242-2010

PRT545
00015

CCP

Reid Supply Company®
A Division of Reid Entities
2265 Black Creek Road • Muskegon, MI 49444-2684
www.reidsupply.com mail@reidsupply.com
Phone: 800-253-0421
231-777-3951
Fax: 800-438-1145
231-773-4485

UPS G-D

RECEIVED
JUN 0 1 2006
METALEX MFG.
BY

3586600
P.O. #: 64754-BL-5681
Shipper No 03586600-1

Bill To: METALEX MFG INC
5750 CORNELL RD
CINCINNATI, OH 45242-2010

Ship To: METALEX MFG INC
5750 CORNELL RD
CINCINNATI, OH 45242-2083

Phone

Attn:

Customer No	Your P.O. No	Sched Date	Ship Via	Ship Date	Shipper No
29204	64754-BL-5681	05/25/06	U.P.S.	05/30/06	03586600-1

Line	Order Qty	Item	Description	Qty Shipped	Back Order
1	668	KLI-66353	INSERT M8X1.25 X M12X1.25 THINWALL - SS	668	0
		4718		HS Tariff Code:	820510
				Country of Origin:	United States

Total Number of items: 1 Estimated Weight 7 lb 1.61 oz 3.224 kg

Opr: JMH Branch: 11 SLSM: 801

Picker:

METALEX
QA. DEPT.
ACCEPTED
DATE 6/6/06
BY KKB

All sales of products by Reid Supply Company are made on the terms contained in Reid Supply Company's standard Terms of Sale, which are incorporated by reference. If buyer has not otherwise agreed to those terms, then buyer's Acceptance of Delivery of, or Payment For, the goods will constitute buyer's agreement to the standard Terms of Sale. Reid Supply Company's standard Terms of Sale are available at www.reidsupply.com or by calling 800-253-0421 and requesting a copy.

KLI-66353

X1.25 X M12X1.25
SS

Qty 668

METALEX MFG INC

Bag Size SB
Qty/Bag 10

3586600 - 1 - 1

RLM 05-30-200
SHIP

Reid Supply Company and it's divisions being ISO-9002 compliant does certify that according to our records the above material purchased was supplied in accordance with the description as illustrated in our catalog.

ALL ITEMS MANUFACTURED IN THE U.S.A UNLESS OTHERWISE NOTED.
THANK YOU VERY MUCH FOR YOUR ORDER

Cathy Reid, Document Control Supervisor

Packing List

Packing List

Reid Supply Company®
A Division of Reid Entities
Phone: 800-253-0421
231-777-3951
Fax: 800-438-1145
231-773-4485
2265 Black Creek Road • Muskegon, MI 49444-2684
www.reidsupply.com mail@reidsupply.com

METALEX
QA. DEPT.
ACCEPTED
DATE 6/6/06
BY KKB

3586600

P.O. # : 64754-BL-5681

Shipper No 03586600-0

Bill To: METALEX MFG INC
5750 CORNELL RD
CINCINNATI, OH 45242-2010

Ship To: METALEX MFG INC
5750 CORNELL RD
CINCINNATI, OH 45242-2083

Phone

Attn:

Customer No	Your P.O. No	Sched Date	Ship Via	Ship Date	Shipper No
20204	64754-BL-5681	05/25/06	U.P.S.	05/25/06	03586600-0

Line	Order Qty	Item	Description	Qty Shipped	Back Order
1	950	KLI-66353	INSERT M8X1.25 X M12X1.25 THINWALL - SS	282	668
		4718		HS Tariff Code:	820510
				Country of Origin:	United States

Total Number of items: 1

Opr: JMH Branch: 11 SLSM: 801

Picker: PCH

UPS GND Estimated Weight 2 lb 15.96 oz 1.361 kg

RECEIVED
MAY 30 2006
METALEX MFG.
BY PB

LA 5/31

All sales of products by Reid Supply Company are made on the terms contained in Reid Supply Company's standard Terms of Sale, which are incorporated by reference. If buyer has not otherwise agreed to those terms, then buyer's Acceptance of Delivery of, or Payment For, the goods will constitute buyer's agreement to the standard Terms of Sale. Reid Supply Company's standard Terms of Sale are available at www.reidsupply.com or by calling 800-253-0421 and requesting a copy.

CERTIFICATION OF COMPLIANCE
Reid Supply Company and it's divisions being ISO-9002 compliant does certify that according to our records the above material purchased was supplied in accordance with the description as illustrated in our catalog.

ALL ITEMS MANUFACTURED IN THE U.S.A UNLESS OTHERWISE NOTED.
THANK YOU VERY MUCH FOR YOUR ORDER

Cathy Reid, Document Control Supervisor

Packing List

Packing List

Reid Supply Company®
A Division of Reid Entities
2265 Black Creek Road • Muskegon, MI 49444-2684
www.reidsupply.com mail@reidsupply.com
Phone: 800-253-0421
231-777-3951
Fax: 800-438-1145
231-773-4485

3605238
P.O. #: 65182-RB
Shipper No 03605238-0

job#5681

METALEX
QA. DEPT
ACCEPTED
DATE 7/13/06
BY KKB

Bill To: METALEX MFG INC
5750 CORNELL RD
CINCINNATI, OH 45242-2083

Ship To: METALEX MFG INC
5750 CORNELL RD
CINCINNATI, OH 45242-2083

Phone

Attn: JOB #5681

Customer No	Your P.O. No	Sched Date	Ship Via	Ship Date	Shipper No
29204	65182-RB	07/07/06	U.P.S.	07/07/06	03605238-0

Line	Order Qty	Item	Description	Qty Shipped	Back Order
1	60	KLI-66353 4718	INSERT M8X1.25 X M12X1.25 THINWALL - SS	60	0

HS Tariff Code: 820510
Country of Origin: United States

Total Number of items: 1
Estimated Weight 0 lb 10.20 oz 0.290 kg
Opr: MAC Branch: 11 SLSM: 801
Picker:

All sales of products by Reid Supply Company are made on the terms contained in Reid Supply Company's standard Terms of Sale, which are incorporated by reference. If buyer has not otherwise agreed to those terms, then buyer's Acceptance of Delivery of, or Payment For, the goods will constitute buyer's agreement to the standard Terms of Sale. Reid Supply Company's standard Terms of Sale are available at www.reidsupply.com or by calling 800-253-0421 and requesting a copy.

upscan

RECEIVED
JUL 11 2006
METALEX MFG.
BY CD

CERTIFICATION OF COMPLIANCE
Reid Supply Company and it's divisions being ISO-9002 compliant does certify that according to our records the above material purchased was supplied in accordance with the description as illustrated in our catalog.

ALL ITEMS MANUFACTURED IN THE U.S.A UNLESS OTHERWISE NOTED.
THANK YOU VERY MUCH FOR YOUR ORDER

Cathy Reid, Document Control Supervisor

Packing List

Packing List

Job#15681/5725

METALEX
QA. DEPT.
ACCEPTED
DATE 8/7/06
BY RKB

CRAFTS TECHNOLOGY
Precision Fabrication of Ultra-Hard Materials

Crafts Technology
91 Joey Drive
Elk Grove Village, IL 60007
UPS ACCT# 4E3-E38

Ph: 847-758-3100
Fax: 847-758-0162

Pack List

Number: 8358 Date: 20-Jul-06

To

Metalex Manufacturing, Inc.
5750 Cornell Road
Cincinnati, OH 45242
USA

Ph: 513-489-0507 Fax: 513-489-1020

Ship To

Metalex Manufacturing, Inc.
5750 Cornell Road
Cincinnati, OH 45242
USA

Ph: 513-489-0507 Fax: 513-489-1020

Terms	Ship Via
Net 21 days	UPS RED

Quantity	Description
297 each	Part: L143-110702 Rev: 01 TAPER SHIM Job: 2717 PO: 64975-BL Line:
	Thank you for your order This is to certify that the materials, parts and/or processes furnished against the above referenced purchase order were manufactured in accordance with the customer drawing and revision level shown Crafts Technology/Quality Control Department

Clans Technology, Inc.

FINAL INSPECTION REPORT

DATE 7-20-06

INSPECTOR [illegible]

JOB NUMBER 2717

PART NUMBER L143-110702

DESCRIPTION TAPER SHIM

CUSTOMER METALEX

DATE	SEQ	OPN		INSP CLK#	DRAWING DIM./TOLERANCE	ACTUAL MEASUREMENT NO 1	NO 2	NO 3	NO 4
					.394	.397 /	.3982		
					5.118 ±.007	5.124 /	5.125		
					RAD. .079 ±.008 2PL	.075 /	.082		
					.500 ±.008	.5032 /	.5045		
					.008	.009 /	.010		
					.004	.0045	.0061		
					.075 ±.008	.0752 /	.0756		
					.087 ±.008	.0872 /	.0876		
					⊥ .003	.0006 /	.0025		

OK TO SHIP PS 7-20-06

ANCHOR METAL FINISHING, INC.

BLACK OXIDE ON STEEL

"Specialists in the Field"

9355 BERNICE • SCHILLER PARK, ILLINOIS 60176 • PHONE: (708) 678-4304 • FAX: (708) 678-7331

Crafts technology

METALEX
QA. DEPT.
ACCEPTED
DATE 8/7/06
BY KKB

Gentlemen:

This is to certify that parts listed below have been black oxided in accordance with AMS 2485J (Aerospace) specifications.

Very truly yours,

Alex

ANCHOR METAL FINISHING, INC.

Shipping Ticket No. 264262

Your P.O. NO. 7473

Date 07-31-06

Part NO. L143-110702

Quantity 300 pcs

PO 64975 - BC - 5681

Stripco Inc.

*STEEL SLITTING AND EDGE CONDITIONING
*PRECISION COLD ROLLING

55555 Magnolia Drive • Mishawaka, IN 46545
Phone: (574) 255-7800 • Fax: (574) 258-7612

PACKING LIST

PACKING SLIP NUMBER
GLED
D**
187483

--517-548-3964--

D TO:
Alro Steel Jackson
3100 East High Street
P.O. Box 927
Jackson, MI 49203

SHIP TO:
Alro Steel Pottersville
5059 Alro Park Drive
Pottersville, MI 48876

DUE DATE 3/24/05 TT

E OF ORDER	DATE SHIPPED	CUSTOMER ORDER NO.	SHIPPED VIA	DEPT.	TERMS
3/08/05	3/30/05	PO PO 5077044	HILLTOP FARMS	90	1/2-10 NET 30

QTY. ORD.	JOB NUMBER	DESCRIPTION	QTY. SHIPPED	QTY. B.O.
	BILL-OF-LADING#:	TRK DRIVER: HILLTOP	PREPAID/S	
2,000	6255301	1/8 X .437" X 144.00" CR 1018		
	GRS WGT	2,199		
	TAG#	337369	2,199	
	LOCATION	CKA		
	PCS/COIL	990		CNT TOTAL 990

CERTIFIED RECORD OF METALLURGICAL PROPERTIES

STRIP#	Carb	Mang	Phos	Sulf	Sil	Alum	Chrm	Moly	Heat#
147220	.150	.61	.006	.007	.030	.029	.08	.027	H3689
Yld=	46,899 Ten=		77,427	Elg%=22.45	Dis=	0			

RECEIVED MAR 30 2005 BY

ALRO STEEL/METAL
RT04483400

REJECTIONS WILL BE HONORED ONLY IF RETURNED IN ORIGINAL FORM SOLD.

A Service Charge of 1½% per month (18% per year) will be added to all invoices that are 30 days past the Date of Invoice. Title to merchandise does not pass until goods are fully paid for. Claims for errors, deficiencies, or imperfections must be made within 10 days after receipt of goods. The Seller's responsibility for material in transit ceases when it passes into the hands of the transportation company. "We hereby certify that we have complied with all requirements of the Fair Labor Standards Act of 1938, as amended."

CHECK BOX IF COLLECT ☐
Load Approved: Cot
Load must be secured and weather protected.
Driver:

RECEIVED BY: X
DATE RECEIVED: 3-30-05

CUSTOMER COPY

CRAFTS

CRAFTS TECHNOLOGY
Precision Fabricator of Ultra-Hard Materials

Crafts Technology
91 Joey Drive
Elk Grove Village, IL 60007
UPS ACCT# 4E3-E38

Ph: 847-758-3100
Fax: 847-758-0162

Pack List

Number: 8358 Date: 20-Jul-06

To

Metalex Manufacturing, Inc.
5750 Cornell Road
Cincinnati, OH 45242
USA

Ph: 513-489-0507 Fax: 513-489-1020

Ship To

Metalex Manufacturing, Inc.
5750 Cornell Road
Cincinnati, OH 45242
USA

Ph: 513-489-0507 Fax: 513-489-1020

Terms	Ship Via
Net 21 days	UPS RED

Quantity	Description
297 each	Part: L143-110702 Rev: 01 TAPER SHIM Job: 2717 PO: 64975-BL 56 81 Line:

Thank you for your order

This is to certify that the materials, parts and/or processes furnished against the above referenced purchase order were manufactured in accordance with the customer drawing and revision level shown

Crafts Technology/Quality Control Department

Black oxide per AMS 2485 Rev. J. MTX QC 18
KCB 7/26/06

METALEX MTX QC 18
QA. DEPT.
~~ACCEPTED~~
DATE 7/26/06
BY KCB

Requested Revised cert

UPS NDA

RECEIVED
JUL 21 2006
METALEX MFG.
BY CD

Job#5681/5725

CRAFTS

CRAFTS TECHNOLOGY
Precision Fabricator of Ultra-Hard Materials

Crafts Technology
91 Joey Drive
Elk Grove Village, IL 60007
UPS ACCT# 4E3-E38

Ph: 847-758-3100
Fax: 847-758-0162

METALEX
QA. DEPT.
ACCEPTED
DATE 8/7/06
BY KKB

Pack List

Number: 8377 Date: 24-Jul-06

To

Metalex Manufacturing, Inc.
5750 Cornell Road
Cincinnati, OH 45242
USA

Ph: 513-489-0507 Fax: 513-489-1020

Ship To

Metalex Manufacturing, Inc.
5750 Cornell Road
Cincinnati, OH 45242
USA

Ph: 513-489-0507 Fax: 513-489-1020

Terms	Ship Via
Net 21 days	UPS

Quantity	Description
314 each	Part: L143-110702 Rev: 01 TAPER SHIM Job: 2717 PO: 64975-BL Line:

Thank you for your order

This is to certify that the materials, parts and/or processes furnished against the above referenced purchase order were manufactured in accordance with the customer drawing and revision level shown

Crafts Technology/Quality Control Department

Crafts Technology, Inc.

FINAL INSPECTION REPORT

DATE 7-20-06

INSPECTOR [illegible]

JOB NUMBER 2717

PART NUMBER L143-110702

DESCRIPTION TAPER SHIM

CUSTOMER METALEX

DATE	SEQ	OPN		INSP CLK#	DRAWING DIM./TOLERANCE	ACTUAL MEASUREMENT NO 1	NO 2	NO 3	NO 4
					.394	.397	.3982		
					5.118 ±.007	5.124	5.125		
					RAD. .079 ±.008 2PL	.075	.082		
					.500 ±.008	.5032	.5045		
					.008	.009	.010		
					.004	.0045	.0061		
					.075 ±.0008	.0752	.0756		
					.087 ±.0008	.0872	.0876		
					⏥ .003	.0006	.0025		

OK TO SHIP DS 7-20-06

ANCHOR METAL FINISHING, INC.

BLACK OXIDE ON STEEL

"Specialists in the Field"

9355 BERNICE • SCHILLER PARK, ILLINOIS 60176 • PHONE: (708) 678-4304 • FAX: (708) 678-7331

Crafts Technology

METALEX
QA. DEPT.
ACCEPTED
DATE 8/7/06
BY KKB

Gentlemen:

This is to certify that parts listed below have been black-oxided in accordance with AMS 2485J (Aerospace) specifications.

Very truly yours,
Alex

ANCHOR METAL FINISHING, INC.

Shipping Ticket No. 264279

Your P.O. NO. 7480

Date 07-31-06

Part NO. L143-110702

Quantity 314 pcs

PO 64975 - BC - 5681

Stripco Inc.™

• STEEL SLITTING AND EDGE CONDITIONING
• PRECISION COLD ROLLING

5898 Magnolia Drive • Mishawaka, IN 46545
Phone: (574) 258-7800 • Fax: (574) 258-7813

PACKING LIST

PACKING SLIP NUMBER
GLED
D** 187483

~~517-645-9906~~

DUE DATE 3/24/05 TT

SOLD TO:
Alro Steel Jackson
3100 East High Street
P.O. Box 927
Jackson, MI 49203

SHIP TO:
Alro Steel Pottenville
5859 Alro Park Drive
Pottenville, MI 48876

DATE OF ORDER	DATE SHIPPED	CUSTOMER ORDER NO.	SHIPPED VIA	DEPT.	TERMS
3/08/05	3/30/05	PV PV 5077044	HILLTOP FARMS	90	1/2-10 NET 30

QTY. ORD.	JOB NUMBER	DESCRIPTION	QTY. SHIPPED	QTY. B.O.
	BILL-OF-LADING=>	TRK DRIVER=> HILLTOP	PREPAID/S	
2,000	6355301	1/8 X .437" X 144.00" CR 1018		
	OSS WGT	2,199		
	TAG#	337369	2,199	
	LOCATION	CKA		
	PCS/COIL	990		CNT TOTAL 990

CERTIFIED RECORD OF METALLURGICAL PROPERTIES

STR13#	Carb	Mang	Phos	Sulf	Sil	Alum	Chrm	Moly	Heat#
147220	.150	.61	.006	.007	.030	.029	.08	.027	H3689
Yld=	66,899	Ten=	77,427	ElgX=22.45	Dis=	0			

RECEIVED
MAR 30 2005
By

ALRO STEEL/METAL
RT04483400

REJECTIONS WILL BE HONORED ONLY IF RETURNED IN ORIGINAL FORM SOLD.

A Service Charge of 1½% per month (18% per year) will be added to all invoices that are 30 days past the Date of Invoice. Title to merchandise does not pass until goods are fully paid for.
Claims for errors, deficiencies, or imperfections must be made within 10 days after receipt of goods. The Seller's responsibility for material in transit ceases when it passes into the hands of the transportation company. "We hereby certify that we have complied with all requirements of the Fair Labor Standards Act of 1938, as amended."

CHECK BOX IF COLLECT ☐
Load Approved: CPT
Load must be secured and weather protected
Driver: [signature]

RECEIVED BY: X

DATE RECEIVED: 3-30-05

CUSTOMER COPY

Job#5681/5725

METALEX
QA. DEPT
ACCEPTED
DATE 8/7/06
BY KKB

CRAFTS TECHNOLOGY
Precision Fabricator of Ultra-Hard Materials

Crafts Technology
91 Joey Drive
Elk Grove Village, IL 60007
UPS ACCT# 4E3-E38

Ph: 847-758-3100
Fax: 847-758-0162

Pack List

Number: 8434 Date: 03-Aug-06

To

Metalex Manufacturing, Inc.
5750 Cornell Road
Cincinnati, OH 45242
USA

Ph: 513-489-0507 Fax: 513-489-1020

Ship To

Metalex Manufacturing, Inc.
5750 Cornell Road
Cincinnati, OH 45242
USA

Ph: 513-489-0507 Fax: 513-489-1020

Terms	Ship Via
Net 21 days	UPS

Quantity	Description
300 each	Part: L143-110702 Rev: 01 TAPER SHIM Job: 2717 PO: 64975-BL Line:
	Thank you for your order This is to certify that the materials, parts and/or processes furnished against the above referenced purchase order were manufactured in accordance with the customer drawing and revision level shown Crafts Technology/Quality Control Department Manufactured in the USA

Crafts Technology, Inc.

FINAL INSPECTION REPORT

DATE 08-02-04

INSPECTOR [illegible]

JOB NUMBER 2717

PART NUMBER L143-110702

DESCRIPTION TAPER SHIM

CUSTOMER METALEX

DATE	SEQ	OPN		INSP CLK#	DRAWING DIM./TOLERANCE	ACTUAL MEASUREMENT NO 1	NO 2	NO 3	NO 4
					.394	.395	.397	.396	.396
					5.118 ±007	5.124	5.124	5.125	5.123
					RAD .079 ±008 2PL	.075	.078	.080	.082
					.500 ±008	.5025	.5042	.5035	.5035
					.008	.0102	.010	.0102	.010
					.004	.0045	.006	.006	.0045
					.075 ±0008	.0752	.0754	.0750	.0752
					.087 ±0008	.0869	.0872	.0876	.0872
					⏥ .003	.0005	.0015	.002	.0015
						5	6	7	8
					.394	.395	.396	.395	.395
					5.118 ±007	5.125	5.125	5.124	5.125
					RAD .079 ±008 2PL	.082	.083	.080	.082
					.500 ±008	.5035	.5030	.5045	.5020
					.008	.0102	.010	.0103	.010
					.004	.0049	.005	.0042	.0062
					.075 ±0008	.0749	.0754	.0755	.0746
					.087 ±0008	.0870	.0871	.0872	.0872
					⏥ .003	.0005	.0023	.001	.0015
						9			
					.394	.396			
					5.118 ±007	5.124			
					RAD .079 ±008 2PL	.083			
					.500 ±008	.5035			
					.008	.010			
					.004	.0045			
					.075 ±0008	.0751			
					.087 ±0008	.0869			
					⏥ .003	.0005			

ANCHOR METAL FINISHING, INC.

BLACK OXIDE ON STEEL

"Specialists in the Field"

9355 BERNICE • SCHILLER PARK, ILLINOIS 60176 • PHONE: (708) 678-4304 • FAX: (708) 678-7331

Crafts Technology

METALEX QA. DEPT. ACCEPTED DATE 8/1/06 BY KKB

Gentlemen:

This is to certify that parts listed below have been black-oxided in accordance with AMS 2485J (Aerospace) specifications.

Very truly yours,

Alex

ANCHOR METAL FINISHING, INC.

Shipping Ticket No. 269872

Your P.O. NO. 7525

Date 07-31-06

Part NO. L143-110702

Quantity 300 pcs

PO 64975 - BC - 5681

Stripco Inc.

- STEEL SLITTING AND EDGE CONDITIONING
- PRECISION COLD ROLLING

55575 Magnetic Drive • Mishawaka, IN 46545
Phone: (574) 259-7800 • Fax: (574) 258-7813

PACKING LIST

PACKING SLIP NUMBER
SLED
D** 187483

--BILL-TO--
DUE DATE 3/24/05 TT

SOLD TO:
Alro Steel Jackson
3100 East High Street
P.O. Box 927
Jackson, MI 49203

SHIP TO:
Alro Steel Potterville
5059 Alro Park Drive
Potterville, MI 48876

DATE OF ORDER	DATE SHIPPED	CUSTOMER ORDER NO.	SHIPPED VIA	DEPT.	TERMS
3/28/05	3/30/05	PO PO 5077044	HILLTOP FARMS	90	1/2-10 NET 30

QTY. ORD.	JOB NUMBER	DESCRIPTION	QTY. SHIPPED	QTY. B.O.
BILL-OF-LADING-->		FRE DRIVER--> HILLTOP	PREPAID/S	
2,000	6355301	1/8 X .437" X 144.00" CR 1018		
	ORG WGT	2,199		
	TAG#	337369	2,199	
	LOCATION	CKA		
	PCS/COIL	990		CNT TOTAL 990

CERTIFIED RECORD OF METALLURGICAL PROPERTIES

STRIP#	Carb	Mang	Phos	Sulf	Sil	Alum	Chrm	Moly	Heat#
147220	.150	.61	.006	.007	.030	.029	.08	.027	H0689
Yld=	46,899 Ten=		77,427	Elg%=22.45	Dia=	0			

RECEIVED MAR 30 2005 BY

ALRO STEEL/METAL
RT04483400

REJECTIONS WILL BE HONORED ONLY IF RETURNED IN ORIGINAL FORM SOLD.

A Service Charge of 1½% per month (18% per year) will be added to all invoices that are 30 days past the Date of Invoice. Title to merchandise does not pass until goods are fully paid for.
Claims for errors, deficiencies, or imperfections must be made within 10 days after receipt of goods. The Seller's responsibility for material in transit ceases when it passes into the hands of the transportation company. "We hereby certify that we have complied with all requirements of the Fair Labor Standards Act of 1938, as amended."

CHECK BOX IF COLLECT ☐
Load Approved: Cat
Load must be secured and weather protected.
Driver:

RECEIVED BY: X
DATE RECEIVED: 3-30-05

NSF 10-4 1-1 Rev1

CUSTOMER COPY

CINCINNATI BLACK OXIDE CERTIFICATION

THIS IS TO CERTIFY THAT THE FOLLOWING PARTS HAVE BEEN PROCESSED AND INSPECTED TO MEET AMS 2485 J CERTIFICATION

COMPANY NAME: METALEX
PURCHASE ORDER NUMBER: 65536-JS
PARTS PROCESSED:

QUANTITY	PART NUMBER	DESCRIPTION
44.	L143-110112	

906#5681

METALEX
QA. DEPT MTX
ACCEPTED
DATE 7/31/06
BY KKB

SIGNATURE Maria Vitale

DATE CERTIFIED: 07.20.06

CERTIFICATION NO. 072006-003

CINCINNATI BLACK OXIDE
4510 MUHLHAUSER ROAD
CINCINNATI, OHIO 45011
PHONE 513-874-1333
FAX 513-874-4846

CINCINNATI BLACK OXIDE CERTIFICATION

THIS IS TO CERTIFY THAT THE FOLLOWING PARTS HAVE BEEN PROCESSED AND INSPECTED TO MEET AMS 2485 J CERTIFICATION

COMPANY NAME: METALEX
PURCHASE ORDER NUMBER: 65506-JS
PARTS PROCESSED:

QUANTITY	PART NUMBER	DESCRIPTION
32	L143-110108-**	

906#5681
METALEX
QA. DEPT
ACCEPTED
DATE 8/7/06
BY KKB

SIGNATURE Maria Vitale

DATE CERTIFIED: 07.12.06

CERTIFICATION NO. 071206-003

CINCINNATI BLACK OXIDE
4510 MUHLHAUSER ROAD
CINCINNATI, OHIO 45011
PHONE 513-874-1333
FAX 513-874-4846

"REVISED CERTIFICATION"

RECEIVED
AUG 04 2006

CINCINNATI BLACK OXIDE CERTIFICATION

THIS IS TO CERTIFY THAT THE FOLLOWING PARTS HAVE BEEN PROCESSED AND INSPECTED TO MEET AMS 2485 J CERTIFICATION

COMPANY NAME: METALEX
PURCHASE ORDER NUMBER: 65553-JS
PARTS PROCESSED:

Job#5681

METALEX MTX
QA. DEPT QC 18
ACCEPTED
DATE 8/7/06
BY KKB

QUANTITY	PART NUMBER	DESCRIPTION
282	L143-110111	
14	L143-110114	REV#01
100	L143-110119	

SIGNATURE Maria Vitolo

DATE CERTIFIED: 07-24-06

CERTIFICATION NO. 072406-002

CINCINNATI BLACK OXIDE
4510 MUHLHAUSER ROAD
CINCINNATI, OHIO 45011
PHONE 513-874-1333
FAX 513-874-4846

Ph:937-253-5311 Fax:937-253-5096

TECHMETALS, INC.

345 Springfield St. Dayton, OH 45403-1240

Metal Finishing Certification

METALEX QA DEPT ACCEPTED DATE 8/7/06 BY KKB

Requested Revised Cert

To: METALEX MANUFACTURING INC
5750 CORNELL ROAD
CINCINNATI, OH 45242
United States

From: Techmetals Incorporated
2200 EAST FIRST STREET
Dayton, OH 45403

Packing List No: 21176
Shipping Date: 07/20/06
Today's Date: 07/20/06
PO Number: 65526-JS-5681

Quantity Shipped	Unit	Description	Revision	Job Number
7	EA	L143-110801 BASE, HOLDER MAGNET STRUCT 7.75 X 5 X 2 MIC-6 CAST ALUMINUM CERT CLEAR ANODIZE ***CRITICAL PART**HANDLE VERY CAREFULLY*** CLEAR ANODIZE PER AMS-2471, SODIUM DICHROMATE SEAL REQUIRED CERTIFICATION REQUIRED OPERATION# 70 1 CRATE LOC# 5-107		18114-01
7	EA	L143-111201 BASE, HOLDER MAGNET STRUCT 7.75 X 5 X 2 MIC-6 CAST ALUMINUM CERT CLEAR ANODIZE ***CRITICAL PART**HANDLE VERY CAREFULLY*** CLEAR ANODIZE PER AMS-2471, SODIUM DICHROMATE SEAL REQUIRED CERTIFICATION REQUIRED OPERATION# 70 1 CRATE LOC# 5-107		18114-02
7	EA	L143-111301 BASE, HOLDER MAGNET STRUCT 7.75 X 5 X 2 MIC-6 CAST ALUMINUM CERT CLEAR ANODIZE		18114-03

Rev. F KKB 8/7/06

Rev. F KKB 8/7/06

Quantity Shipped	Unit	Description	Revision	Job Number
		CRITICAL PART**HANDLE VERY CAREFULLY		
		CLEAR ANODIZE PER AMS-2471, SODIUM DICHROMATE SEAL REQUIRED		
		CERTIFICATION REQUIRED ^Rev. F KKB 8/7/06		
		OPERATION# 70		
		1 CRATE		
		LOC# 5-107		
7	EA	L143-110901 BASE, HOLDER MAGNET STRUCT		18114-04
		7.75 X 5 X 2		
		MIC-6 CAST ALUMINUM		
		CERT CLEAR ANODIZE		
		CRITICAL PART**HANDLE VERY CAREFULLY		
		CLEAR ANODIZE PER AMS-2471, SODIUM DICHROMATE SEAL REQUIRED		
		CERTIFICATION REQUIRED ^Rev. F KKB 8/7/06		
		OPERATION# 70		
		1 CRATE		
		LOC# 5-107		

METALEX QA DEPT ACCEPTED DATE 8/7/06 BY KKB

Requested Revised Cert

THIS CERTIFIES THAT THE ABOVE PARTS, METAL FINISHED BY TECHMETALS, INC., WERE PLATED/PROCESSED IN ACCORDANCE WITH THE PURCHASE ORDER SHOWN ABOVE.

OBJECTIVE EVIDENCE FOR THIS ORDER IS ON FILE AT OUR FACILITY AND AVAILABLE FOR CUSTOMER/GOVERNMENT REVIEW.

TM QA 4

Inspector's Initials

Techmetals Incorporated

Techmetals Incorporated

TECHMETALS, INC.

2200 EAST FIRST STREET
Dayton, OH 45403
Phone: 937-253-5311
Fax: 937-253-1982

METALEX
QA. DEPT. MTX QC 18
ACCEPTED
DATE 8/7/06
BY KKB

REVISED Metal Finishing Certification

To: METALEX MANUFACTURING INC
5750 CORNELL ROAD
CINCINNATI, OH 45242

United States

From: Techmetals Incorporated
2200 EAST FIRST STREET
Dayton, OH 45403

Packing List No: 21280
Shipping Date: 07/21/06

Today's Date: 07/28/06
PO Number: 55535-JS-5681

74 EA L143-110109 BRACKET 1
2.625 X 1.25 X 0.625
6061-T651 ALUMINUM
CERT CLEAR ANODIZE

02V 18191-01
KKB 8/7/06 MTX QC 18

CRITICAL PART**HANDLE VERY CAREFULLY
WRAP TO PROTECT & KEEP CLEAN
CLEAR ANODIZE PER AMS-2471 REV F
SODIUM DICHROMATE SEAL REQUIRED
CERTIFICATION REQUIRED
OPERATION# 60
1 SKID / 2 BOXES
LOC# 5-164

KKB 8/7/06

75 EA L143-110110 BRACKET 2
2.625 X 1.25 X 0.625
6061-T651 ALUMINUM
CERT CLEAR ANODIZE

02V MTX QC 18 18191-02

CRITICAL PART**HANDLE VERY CAREFULLY
WRAP TO PROTECT & KEEP CLEAN
CLEAR ANODIZE PER AMS-2471 REV F
SODIUM DICHROMATE SEAL REQUIRED
CERTIFICATION REQUIRED
OPERATION# 60
1 SKID / 2 BOXES

S/N: -04 MTX QC 12
F 10/10/06

3	EA	LOC# 5-164 L143-111001 HOLDER MAGNET STRUCT 39.50 X 5 X 2.50 MIC-6 ALUMINUM CERT CLEAR ANODIZE	01	18191-03

METALEX QA. DEPT. MTX QC 18
ACCEPTED
DATE 8/7/06
BY KKB

CRITICAL PART**HANDLE VERY CAREFULLY
WRAP TO PROTECT & KEEP CLEAN
CLEAR ANODIZE PER AMS-2471 REV F
SODIUM DICHROMATE SEAL REQUIRED
CERTIFICATION REQUIRED
OPERATION# 70
1 SKID / 2 BOXES
LOC# 5-164

S/N: -04 MTX QC 12 TL 10/10/06

3	EA	L143-111101 HOLDER MAGNET STRUCT 39.50 X 5 X 2.50 MIC-6 ALUMINUM CERT CLEAR ANODIZE	01	18191-04

CRITICAL PART**HANDLE VERY CAREFULLY
WRAP TO PROTECT & KEEP CLEAN
CLEAR ANODIZE PER AMS-2471 REV F
SODIUM DICHROMATE SEAL REQUIRED
CERTIFICATION REQUIRED
OPERATION# 70
1 SKID / 2 BOXES
LOC# 5-164

1	EA	510EXP NEXT DAY EXPEDITE	18191-05

THIS CERTIFIES THAT THE ABOVE PARTS, METAL FINISHED BY TECHMETALS, INC., WERE PLATED/PROCESSED IN ACCORDANCE WITH THE PURCHASE ORDER SHOWN ABOVE.

OBJECTIVE EVIDENCE FOR THIS ORDER IS ON FILE AT OUR FACILITY AND AVAILABLE FOR CUSTOMER/GOVERNMENT REVIEW.

Thomas A Stahl
Inspector's Initials
Techmetals Incorporated

METALS
QA. DEPT. MTX QC 18
ACCEPTED
DATE
BY

TECHMETALS, INC.

Metal Finishing Certification

METALEX
QA. DEPT.
ACCEPTED
DATE 8/7/06
BY KKB.

Requested Revised Cert

To: METALEX MANUFACTURING INC
5750 CORNELL ROAD
CINCINNATI, OH 45242
United States

From: Techmetals Incorporated
2200 EAST FIRST STREET
Dayton, OH 45403

Packing List No: 21092
Shipping Date: 07/19/06
Today's Date: 07/19/06
PO Number: 65381 - JS - 5681

Quantity Shipped	Unit	Description	Revision	Job Number
116	EA	L413-110115-01 STOPPER 2 X 1.375 X 0.50 6061-T651 ALUMINUM CERT CLEAR ANODIZE		17202-02

CRITICAL PART**HANDLE VERY CAREFULLY
CLEAR ANODIZE PER AMS-2471, SODIUM DICHROMATE SEAL
REQUIRED
CERTIFICATION REQUIRED
OPERATION# 40
BOX 1
LOC# 5-090

Rev F.
KKB 8/7/06

THIS CERTIFIES THAT THE ABOVE PARTS, METAL FINISHED BY TECHMETALS, INC., WERE PLATED/PROCESSED IN ACCORDANCE WITH THE PURCHASE ORDER SHOWN ABOVE.

OBJECTIVE EVIDENCE FOR THIS ORDER IS ON FILE AT OUR FACILITY AND AVAILABLE FOR CUSTOMER/GOVERNMENT REVIEW.

TM QA 4

Inspector's Initials
Techmetals Incorporated

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006-5681	Qty 454

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110104	REV ~~XX~~	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name UPPER LEFT MAGNET STRUCTURE MAGNET CLAMP		
At Oper. N/A	Serial Numbers: N/A		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
ALL DIMENSIONS ARE IN MILLIMETERS, SURFACE FINISH IN MICRONS.	NOTE #1		CONFORMS	454	
REMOVE ALL BURRS AND BREAK SHARP EDGES 0.3mm MAX.	NOTE #2		CONFORMS	454	
UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 6.3 MICRONS.	NOTE #3		CONFORMS	454	
MATERIAL 5/16 AMPCO 8 ALUMINUM BRONZE PLATE			CONFORMS	454	
7.94			7.94 - 8.02	454	
3.97			3.93 - 4.00	454	
23.00			22.981 - 23.04	454	
⌀4.20 THRU			4.20 - 4.24	454	
⌀			CONFORMS	454	
⌀			CONFORMS	454	
2X 45°			45°	454	
54.00			53.975 - 54.0386	454	
6.50			6.48 - 6.520	454	
6.50			6.470 - 6.530	454	
12.00			11.970 - 12.030	454	
1.00			1.00	454	
2X R.20			R.2	454	
2X R3.00			R.3	454	
3.2√			3.2√ OR BETTER	454	

STAMP	INSPECTED BY	DATE	PAGE 1 OF 1	QTY ACC	QTY REJ
MTX	[signature]	8/1/06		454	Ø

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 70

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110109	REV 02V	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name UNDULATOR UNIT ASSEMBLY BRACKET 1		
At Oper. 50	Serial Numbers: N/A		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
CLEAR ANODIZE	NOTE		CONFORMS	70	MTX QC 12
MATERIAL: AL CAST TOOL & JIG PLATE 1.25 PLATE	A2		CONFORMS	70	
36.5			36.449 - 36.514	70	
4			3.962 - 4.013	70	
8			7.988 - 8.013	70	
16			15.989 - 16.017	70	
7			6.979 - 7.048	70	
8			7.961 - 8.024	70	
10			9.936 - 10.051	70	
⌴ ⌵ Ø5 ↧22 3.5 DRILL ↧ THRU M4x.5 ISO – H TAP ↧ THRU 1 PLACE			CONFORMS	70	
⌴ ⌵ Ø7 ↧ 18 5 DRILL ↧ THRU M6x1 ISO – H TAP ↧ THRU 2 PLACES			CONFORMS	70	
Ø7 THRU			6.985 - 7.00 THRU	70	
14			13.914 - 14.036	70	
4			3.954 - 4.072	70	
1.5 (CUT AFTER FINAL MACHINING)			1.4960 - 1.559	70	
✓			CONFORMS	70	
✓			CONFORMS	70	
(31.75 [1.250])			REFERENCE	70	
27.5			27.477 - 27.548	70	

STAMP	INSPECTED BY	DATE	PAGE 1 OF 2	QTY ACC	QTY REJ
	James Giffen	7-19-06		70	

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 70

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110109	REV 02V	P.O. Number 5A1 0359
	Date Rec'd N/A	P.O. No. N/A	Part Name UNDULATOR UNIT ASSEMBLY BRACKET 1		
At Oper. 50	Serial Numbers: N/A		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
16.5			16.484 - 16.526	70	
20.75			20.726 - 20.772	70	
16.5			16.491 - 16.507	70	
27.4			27.387 - 27.404	70	
20.45			20.431 - 20.452	70	
25.45			25.446 - 25.459	70	
(45°)			REFERENCE	70	
45° X 4.5			4.5 x 45°	70	
43			42.990 - 43.326	70	

STAMP	INSPECTED BY	DATE	PAGE 2 OF 2	QTY ACC	QTY REJ
	James [illegible]	7-19-06		70	—

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 7075 JEJ 7-20-06

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110110	REV 02V	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name UNDULATOR UNIT ASSEMBLY BRACKET 2		
At Oper. 50	Serial Numbers: N/A		Customer Name ARGONNE		

Sample 10 out of 70

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
CLEAR ANODIZE	NOTE		CONFORMS	75	MTX QC-1
MATERIAL: AL CAST TOOL & JIG PLATE 1.25 PLATE			CONFORMS	10	
36.5			36.424 - 36.510	10	
8			7.991 - 8.000	10	
4			3.978 - 4.026	10	
16			15.953 - 16.060	10	
7			6.988 - 7.018	10	
3.5 R			3.473 - 3.50 R	10	
7			6.947 - 7.000	10	
10			9.995 - 10.076	10	
⌴ Ø5 ↧22 3.3 DRILL ↧ THRU M4x.5 ISO – H TAP ↧ THRU 1 PLACE			⌴ 5.156Ø ↧ 22.0 3.404 ↧ Thru Conforms to Gage	10	
⌴ Ø7 ↧ 18 5 DRILL ↧ THRU M6x1 ISO – H TAP ↧ THRU 2 PLACES			⌴ 7.163Ø ↧ 17.983/18.0594 4.902Ø ↧ Thru Conforms to Gage	10	
Ø7 THRU			6.934 - 6.960Ø Thru	10	
14			13.97	10	
4			3.861 - 4.013	10	
1.5 (CUT AFTER FINAL MACHINING)			1.524 - 1.600	10	

STAMP	INSPECTED BY	DATE	PAGE 1 OF 2	QTY ACC	QTY REJ
	THOMAS G COOK	7/20/06		10	

MX1010 (7/98) Thomas A. Tully 7/20/06

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 1075

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110110	REV 02V	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name UNDULATOR UNIT ASSEMBLY BRACKET 2		
At Oper. 50	Serial Numbers: N/A		Customer Name ARGONNE		

Sample 10 out of 70

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
✓			Conform	10	
✓			Conform	10	
31.75			31.648 - 31.801	10	
27.5			27.330 - 27.483	10	
2.5			2.540 - 2.667	10	
16.5			16.383 - 16.637	10	
20.75			20.625 - 20.879	10	
(45 DEGREES.)			REFERENCE	10	
1.5			1.5	10	
20.45			20.396 - 20.498	10	
25.45			25.349 - 25.5016	10	
10 DEGREES			10°	10	
16.5			16.4338 - 16.535	10	
26.5			26.492 - 26.543	10	
45 DEGREES X 4.5			45° x 4.5	10	
8			7.950 - 8.052	10	
43			43.002 - 43.053	10	

STAMP	INSPECTED BY	DATE	PAGE 2 OF 2	QTY ACC	QTY REJ
	THOMAS G COOK	7/20/06		10	

MX1010 (7/98) Thomas A. Tully 7/20/06

DATE 5/24/06 METALEX INSPECTION RECORD . JCRJ2

Job# 2006- 5681
Drawing/part# L143-110114
Drw.rev.# 01
Description SCREEN
Serial# _____
Rtg.rev.# 0 by _____
Originated by ROB SCHUERMAN 11/07/05

Customer Argonne Nat'l Laboratory
Proc.Eng.
Expeditor MIKE LORENZ
Cust. PO# 5A10359
Qty. Required 14
Approved by: _____
V.S.E. reqd. (Y/N) _

Geometric characteristics & tolerances must be recorded if they fall within the following ranges:

* Form, orientation, or profile characteristics less than .002
* Positional tolerances less than +/-.0025 linear or .005 true position
* Size, concentricity, or runout tolerances less than:
  +/- .001 for features less than 8.00
  +/- .002 for features 8.00 to 24.00
  +/- .005 for features greater than 24.00

*NOTE: NONCONFORMING DIMENSIONS ARE ONLY RECORDED ON BLUE CARDS

Drawing Dimension		< < < Serial Numbers > > >				Operator Sign/Date
Plate Thk .197	.183-.185					
(7x) .276Ø	.276-.286Ø					
⌖.006 Ø A B	⌖.006					
All other Dim.	Acceptable to Print					

Final Inspection Verification: [signature] 7-20-06
Q.E. Sign./Date

MX1035B (7/94)

Metalex Customized Machinery and Parts — CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006-5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110801	REV XX	P.O. Number 5A10369
	Date Rec'd N/A	P.O. No. N/A	Part Name UPPER LEFT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 17-14-06 04-06-06-05 NA TE 6/1/06		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
AL CAST TOOL & JIG PLATE 2.5" PLATE	A2		CONFORMS	7	
NOTE: CLEAR ANODIZE	A1		CONFORMS	7	MTX QC 12
128 0 / -0.1	A3		5.0367 - 5.0371	7	
60	B3		60	7	
⌀4.1 THRU ⌀6.35 ↧ 17 26 PLACES	A3		4.1 6.35 x 17 (x 26)	7	
⌖ 0.04 A	A3		W/IN .04	7	
195 0 / -0.1	A4		194.9374 - 194.9501	7	
165.6 ±0.1	A4		165.011 - 165.008	7	
82.8 ±0.1	A4		82.773 - 82.809	7	
12.7 ±0.1	A5		12.686 - 12.719	7	
10.8 DRILL ↧ 20.500 M12x1.25 ISO – H TAP ↧ 13.5 6 PLACES	A5		CONFORMS	7	
26 ±0.1	A5		25.996 - 26.047	7	
56 ±0.1	A6		55.973 - 56.024	7	
32 ±0.1	B6		31.973 - 32.044	7	
47 ±0.1	B5		46.941 - 47.019	7	
2X 6.35	B5		6.359 - 6.371	7	
126.9 ±0.1	B4		126.871 - 126.849	7	
20 ±0.08	B3		19.984 - 20.030	7	
5	B3		5	7	
5	B3		5	7	

STAMP	INSPECTED BY	DATE	PAGE 1 OF 3	QTY ACC	QTY REJ
	James Siffen	7-18-06		7	

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2004 5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name: N/A		Part No.: L143-110801	REV: **	P.O. Number: 5A 10359
	Date Rec'd: N/A	P.O. No.: N/A	Part Name: UPPER LEFT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 14-16 04-06-0870-12' N/A R. 8/1/06		Customer Name: ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
5 HIGH CHARACTER ENGRAVE ASSEMBLY NO. AND SERIAL NO.	B3		CONFORMS	7	
5 DRILL ↓ 15 M6x1 ISO – H TAP ↓ 12.7 8 PLACES	C3		CONFORMS	7	
2X 60 ±0.1	C4		59.9948 – 60.015	7	
3X 15 ± 0.1	C5		15.001 – 15.079	7	
33 ± 0.1	C5		32.999 – 32.989	7	
10	B5		9.997 – 10.014	7	
15	B5		14.998 – 15.001	7	
10.5 ± 0.1	D5		10.55 – 10.502	7	
15 ± 0.1	D5		15.006 – 15.074	7	
12X 9.5	D5		9.438 – 9.458	7	
10X 15 ± 0.1= 150 ± 0.1	D4		14.998 - 15.001 149.991 - 150.002	7	
22X 45° X .2 FOUR SIDES	D4		.2 X 45°	7	
29 DRILL ↓ THRU 8-32 UNC-2B TAP ↓ 10 12 PLACES	D3		CONFORMS	7	
4X 45° X .2 THREE SIDES	D3		12 X 45°	7	
12	C3		12	7	
5 HIGH CHARACTER ENGRAVE MAGNET NO.	C3		CONFORMS	7	
11 X 15 ± 0.05 = 165 ± 0.05	C4		14.999 165.001	7	
15 ± 0.05	C5		14.998 - 15.003	7	
3 ± 0.05	C5		.118 – .120	7	
4.2 0 / -0.1	D2		4.150	7	

STAMP	INSPECTED BY	DATE	PAGE 2 OF 3	QTY ACC	QTY REJ
	James Giffen	7-18-06		7	

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110801	REV **	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name UPPER LEFT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 04-06-08-10 12-14-16 ~~N/A~~ R 817106		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
45°	D2		45°	7	
(63.5)	D1		REFERENCE	7	
45° X 10	D1		10 x 45°	7	
0.5	D1		.480 - .460	7	
2X 7.94	D1		7.912 - 7.924	7	
48 ± 0.1	D1		47.904 - 48.016	7	
5/16 DRILL ⇩ 21 3/8 -16 UNC-2B TAP ⇩ 17 2 PLACES	C1		CONFORMS	7	
-A-	C1		DATUM	7	
/ / 0.04	C1		.014	7	
29 ±0.1	C1		29.009 - 29.022	7	
10 ± 0.1	C2		9.999 - 10.025	7	
3X 29	C2		28.997 - 29.021	7	
30 0 / -0.03	C1		29.987 - 30.015	7	
49 0 / -0.1	C1		48.961 - 48.986	7	
10 ± 0.1	C2		9.999 - 10.025	7	
27 0 / -0.1	C2		26.964 26.984	7	
67 +0.1 / 0	D2		67.010 - 67.030	7	
32	D2		31.955 32.016	7	
8 0 / -0.1	D2		7.926 - 7.975	7	
SECTION A-A					
24X 9.5 +0.05 / 0	D6		9.50 - 9.512		

STAMP	INSPECTED BY	DATE	PAGE 3 OF 3	QTY ACC	QTY REJ
	James Giffen	7-18-06		7	

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 20006 5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110901	REV **	P.O. Number 5410389
	Date Rec'd N/A	P.O. No. N/A	Part Name LOWER LEFT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 04-06-08-10-12-14-16 TOTAL TC 8/7/06		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
AL CAST TOOL & JIG PLATE 2.5" PLATE	A2		CONFORMS	7	
NOTE: CLEAR ANODIZE	A1		CONFORMS	7	MTX QC 12
128 0 / -0.1	A5		127.965 - 128.024	7	
60	B2		59.945 - 60.077	7	
⌀4.1 THRU ⌀6.35 ↓ 17 26 PLACES	A4		4.1 6.35 x 17 (26x)	7	
⌖ 0.04 A	A4		.012	7	
195 0 / -0.1	A3		194.945 - 195.055	7	
165.6 ±0.1	A3		165.525 - 165.571	7	
82.8 ±0.1	A3		82.719 - 82.804	7	
12.7 ±0.1	A3		12.672 - 12.744	7	
10.8 DRILL ↓ 20.500 M12x1.25 ISO – H TAP ↓ 13.5 6 PLACES	A4		CONFORMS	7	
26 ±0.1	A4		25.999 - 26.084	7	
56 ±0.1	A5		56.003 - 56.043	7	
32 ±0.1	B5		31.987 - 32.004	7	
47 ±0.1	B4		46.981 - 47.017	7	
2X 6.35	B3		6.349 - 6.358	7	
126.9 ±0.1	B3		126.811 - 126.901	7	
20 ±0.1	B3		19.994 - 20.019	7	
5	B4		5	7	
5	B4		5	7	

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	James [signature]	7-18-06		7	

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No.	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110901	REV	P.O. Number
	Date Rec'd N/A	P.O. No. N/A	Part Name LOWER LEFT MAGNET STRUCTURE BASE		
At Oper.	Serial Numbers: 04-06-08-10-12-14-16		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
5 HIGH CHARACTER ENGRAVE ASSEMBLY NO. AND SERIAL NO.	B4		CONFORMS	7	
5 DRILL ⇓ 15 M6x1 ISO – H TAP ⇓ 12.7 8 PLACES	C4		CONFORMS	7	
2X 60 ±0.1	C4		60.004 - 60.036	7	
3X 15 ± 0.1	C2		14.991 - 15.021	7	
33 ± 0.1	C2		32.971 - 33.006	7	
10	C4		10.001 - 10.020	7	
15	B4		15.007 - 15.009	7	
10.5 ± 0.1	D2		10.477 - 10.567	7	
15 ± 0.1	D2		15.007 - 15.074	7	
12X 9.5	D2		9.479 - 9.531	7	
10X 15 ± 0.1= 150 ± 0.1	D3		14.995-15.000 = 14.995 - 150000	7	
22X 45° X .2 FOUR SIDES	D3		.2 X 45°	7	
29 DRILL ⇓ THRU 8-32 UNC-2B TAP ⇓ 10 12 PLACES	D4		CONFORMS	7	
4X 45° X .2 THREE SIDES	D4		.2 X 45°	7	
15.5	C4		15.5	7	
5 HIGH CHARACTER ENGRAVE MAGNET NO.	C4		CONFORMS	7	
11 X 15 ± 0.05 = 165 ± 0.05	C3		15.001-15.006 165.019-165.027	7	
15 ± 0.05	C3		14.991 - 15.014	7	
3 ± 0.05	C3		2.97 - 3.01	7	
4.2 0 / -0.1	D5		4.141 - ~~4.193~~ 4.193	7	

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	James [signature]	7-18-04		1	

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-110901	REV **	P.O. Number #103 59
	Date Rec'd N/A	P.O. No. N/A	Part Name LOWER LEFT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 04-06-08-10-12-14-16		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
45°	D6		45°	7	
(63.5)	D6		REFERENCE	7	
45° X 10	D6		10X45°	7	
0.5	D6		.469-.490	7	
2X 7.94	D6		7.949 - 7.996	7	
48 ± 0.1	D6		48.009 - 48.027	7	
5/16 DRILL ↧ 21 3/8 -16 UNC-2B TAP ↧ 17 2 PLACES	C6		CONFORMS	7	
-A-	C6		DATUM	7	
⌭ 0.04	C6		W/IN .030	7	
29 ±0.1	C6		29.006 - 29.082	7	
10 ± 0.1	C5		9.991 - 10.032	7	
3X 29	C5		28.916 - 29.201	7	
30 0 / -0.03	C6		29.988 - 29.989	7	
49 0 / -0.1	B6		48.971 - 48.995	7	
10 ± 0.1	C5		9.941 - 10.013	7	
27 0 / -0.1	C5		26.923 - 26.964	7	
67 +0.1 / 0	D5		67.014 - 67.046	7	
32	D5		32.014 - 32.031	7	
8 0 / -0.1	D5		7.954 - 7.983	7	
SECTION A-A					
24X 9.5 +0.05 / 0	D1		9.50 - 9.509	7	

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	James [signature]	7-18-06			

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 3

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111001	REV 01	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name UPPER MIDDLE MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 104 - 204 - 304		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
AL CAST TOOL & JIG PLATE 2.5" PLATE	A2		CONFORMS	3	
NOTE: 1. CLEAR ANODIZE	A1		CONFORMS	3	MTX QC 12
NOTE 2. ONE THIRD OF THE PARTS SHOULD HAVE NUMBERS FROM 13 TO 79. ONE THIRD OF THE PARTS SHOULD HAVE NUMBERS FROM 80 TO 146. ONE THIRD OF THE PARTS SHOULD HAVE NUMBERS FROM 147 TO 213.	A2		CONFORMS	3	
128 0 / -0.1	B2		127.957 - 127.998	3	
60	C3		N/A	3	
⌀4.1 THRU ⌴ ⌀6.35 ↧ 17 132 PLACES	B3		4.1 6.35 ↧ 17 132 X	3	
⌴ 0.04 A	B3		.013	3	
1005 0 / -0.1	A3		1004.976 - 104.997	3	
979.6 ±0.1	B5		979.581 - 979.603	3	
132.55 ±0.1	B6		132.555 - 132.565	3	
6X 120 ±0.1	B6		120.027 - 120.046	3	
12.7 ±0.1	B7		12.758 - 12.764	3	
10.8 DRILL ↧ 20.5 M12x1.25 ISO – H TAP ↧ 13.5 18 PLACES	A4		CONFORMS	3	
26 ±0.1	B7		25.996 - 26.019	3	
56 ±0.1	B8		56.0903 56.099	3	
32 ±0.1	C8		32.029 - 32 - 087	3	

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	James Giffo	7-20-06		3	

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 3

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111001	REV 01	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name UPPER MIDDLE MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 104-204-304		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
47 ±0.1	C7		47.015-47.035	3	
2X 6.35	C7		6.346 -6.399	3	
75.5 ±0.1	C6		75.534 - 75.591	3	
20 ±0.1	C6		.7869" 19.987 - 20.0	3	
909.5 ± 0.1	C5		909.595-909.599	3	
20 ±0.1	C3		20.014-20.027	3	
5	C3		5	3	
5	C3		5	3	
5 HIGH CHARACTER ENGRAVE ASSEMBLY NO. AND SERIAL NO.	C3		CONFORMS	3	
5 DRILL ⇓ 15 M6x1 ISO – H TAP ⇓ 12.7 38 PLACES	D3		CONFORMS	3	
16X 60 ±0.1	D7		59.990-60.050	3	
17X 15 ± 0.1	D7		14.980 -15.020	3	
18 ± 0.1	D7		18.050 -18.091	3	
10	D7		9.957 - 10.040	3	
15	C7		14.978 - 15.043	3	
10.5 ± 0.1	E7		10.496 -10.511	3	
15 ± 0.1	E7		15.004-15.027	3	
66X 9.5	E7		9.4 - 9.5	3	
65X 15 ± 0.1= 975 ± 0.1	E5		14.990-15.011 = 975.007-975.021	3	
132X 45° X .2 FOUR SIDES	E7		132X 45 .2 4X	3	

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	James L Siffern	7-20-06		3	

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Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2004 5681	Qty 3

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111001	REV 01	P.O. Number 5M10759
	Date Rec'd N/A	P.O. No. N/A	Part Name UPPER MIDDLE MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 104-204-304		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
29 DRILL ↧ THRU 8-32 UNC-2B TAP ↧ 10 67 PLACES	E5		CONFORMS	3	
2X 45° X .2 THREE SIDES	E7		.2 X 45	3	
12	E3		12	3	
5 HIGH CHARACTER ENGRAVE MAGNET NO.	D3		CONFORMS	3	
65 X 15 ± 0.05 = 975 ± 0.05	D5		14.986-15.011 = 975.001-975.032	3	
15 ± 0.05	D7		15.0368 - 15.050	3	
3 ± 0.05	D7		3.022	3	
4.2 0 / -0.1	E2		4.157-4.191	3	
45°	E1		45°	3	
(63.5)	E1		REFERENCE	3	
45° X 10	E1		45° X 10	3	
0.5	E1		.499 - .506	3	
2X 7.94	E1		7.967 - 7.990	3	
48 ± 0.1	E1		48.057 - 48.071	3	
5/16 DRILL ↧ 21 3/8 -16 UNC-2B TAP ↧ 17 2 PLACES	D1		N/A	3	
-A-	D1		DATUM	3	
⌭ 0.04	D1		w/IN .04	3	
29 ±0.1	D1		29.984-29.999	3	
10 ± 0.1	D2		9.957 - 10.013	3	
3X 29	D2		28.849 - 28.996	3	
30 0 / -0.03	D1		29.992 - 29.999	3	

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	James [illegible]	7-20-06		3	

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Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 3

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111001	REV 01	P.O. Number 5A103559
	Date Rec'd N/A	P.O. No. N/A	Part Name UPPER MIDDLE MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 104-304-204		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
49 0 / -0.1	D1		48.953 - 48.986	3	
10 ± 0.1	D2		10.044 - 10.079	3	
27 0 / -0.1	E2		26.939 - 26.972	3	
67 +0.1 / 0	E2		67.089 - 67.095	3	
32	E2		32.011 - 32.044	3	
8 0 / -0.1	E2		7.962 - 7.998	3	
SECTION A-A					
134X 9.5 +0.05 / 0	E8		9.51 - 9.53	3	

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	James Jeffers	7-20-06		3	—

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2004 56.81	Qty 3

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111101	REV 1	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name LOWER MIDDLE MAGNET STRUCTURE BASE		
At Oper.	Serial Numbers: 104-204-304		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
AL CAST TOOL & JIG PLATE 2.5" PLATE	A2		CONFORMS	3	
NOTE: 1. CLEAR ANODIZE	A1		CONFORMS	3	MTX DC 12
NOTE 2. ONE THIRD OF THE PARTS SHOULD HAVE NUMBERS FROM 13 TO 79. ONE THIRD OF THE PARTS SHOULD HAVE NUMBERS FROM 80 TO 146. ONE THIRD OF THE PARTS SHOULD HAVE NUMBERS FROM 147 TO 213.	A2		CONFORMS		
128 0 / -0.1	B1		127.954 - 127.988	3	
60	C2		60	3	
⌀4.1 THRU ⌴ ⌀6.35 ↓ 17 132 PLACES	B2		4.1 6.35 ↓17 132X	3	
⌴ 0.04 A	B6		.015	3	
1005 0 / -0.1	B4		1004.967 - 1004.992	3	
979.6 ±0.1	B4		979.542 979.584	3	
132.55 ±0.1	B3		132.544 - 132.549	3	
6X 120 ±0.1	B4		119.994 - 120.021	3	
12.7 ±0.1	B2		12.703 - 12.714	3	
10.8 DRILL ↓ 20.5 M12x1.25 ISO – H TAP ↓ 13.5 18 PLACES	B6		CONFORMS	3	
26 ±0.1	B7		25.984 - 26.011	3	
56 ±0.1	B7		56.011 - 56.047	3	
32 ±0.1	C7		32.014 - 32.034	3	

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	James [illegible]	7-20-06		3	

MX1010 (7/98)

Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 3

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111101	REV 1	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name LOWER MIDDLE MAGNET STRUCTURE BASE		
At Oper.	Serial Numbers: 104-204-304		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
47 ±0.1	C7		46.984 - 47.025	3	
2X 6.35	C2		N/A	3	
75.5 ±0.1	C3		75.497 75.523	3	
20 ±0.1	C3		19.984 - 20.014	3	
909.5 ± 0.1	C4		909.496 - 909.518	3	
20 ±0.1	C6		19.991 - 20.023	3	
5	C6		5	3	
5	C6		5	3	
5 HIGH CHARACTER ENGRAVE ASSEMBLY NO. AND SERIAL NO.	C6		CONFORMS	3	
5 DRILL ↧ 15 M6x1 ISO – H TAP ↧ 12.7 38 PLACES	D4		CONFORMS	3	
16X 60 ±0.1	D2		59.955 - 60.051	3	
17X 15 ± 0.1	D2		14.991 - 15.026	3	
18 ± 0.1	D2		17.971 - 18.011	3	
10	D6		10.004 - 10.026	3	
15	C7		15.006 - 15.011	3	
10.5 ± 0.1	E2		10.496 - 15.017	3	
15 ± 0.1	E2		14.973 - 14.999	3	
66X 9.5	E2		9.45 - 9.02	3	
65X 15 ± 0.1 = 975 ± 0.1	E4		14.994 - 15.006 = 975.002 - 975.034	3	
132X 45° X .2 FOUR SIDES	E2		132X .2X45	3	

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Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 3

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111101	REV 1	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name LOWER MIDDLE MAGNET STRUCTURE BASE		
At Oper.	Serial Numbers: 104-204-304		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
29 DRILL ⇓ THRU 8-32 UNC-2B TAP ⇓ 10 67 PLACES	E5		CONFORMS	3	
2X 45° X .2 THREE SIDES	E2		2X .12 X 45	3	
15.5	E6		15.5	3	
5 HIGH CHARACTER ENGRAVE MAGNET NO.	D6		CONFORMS	3	
65 X 15 ± 0.05 = 975 ± 0.05	D5		14.979-15.011=974.995-975.024	3	
15 ± 0.05	D2		14.985- 15.009	3	
9.25	E6		.363=9.22-9.25	3	
3 ± 0.05	D2		2.990-3.010	3	
4.2 0 / -0.1	E7		4.190-5.010	3	
45°	E8		45°	3	
(63.5)	E8		REFERENCE	3	
45° X 10	E8		10 X 45°	3	
0.5	E8		.5	3	
2X 7.94	E8		7.938- 7.949	3	
48 ± 0.1	E8		47.989- 5.017	3	
5/16 DRILL ⇓ 21 3/8 -16 UNC-2B TAP ⇓ 17 2 PLACES	D7		N/A	3	
-A-	D8		DATUM	3	
⌭ 0.04	D8		W/IN .003	3	
29 ±0.1	D8		28.965-29.033	3	
10 ± 0.1	D7		10.014- 10.037	3	
3X 29	D7		28.981- 29.0322	3	

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	James Giff	7-20-06		3	

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Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 3

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111101	REV 1	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name LOWER MIDDLE MAGNET STRUCTURE BASE		
At Oper.	Serial Numbers: 104 204 304		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
30 0 / -0.03	D8		29.994 - 30.006	3	
49 0 / -0.1	D8		48.965 - 48.979	3	
10 ± 0.1	E8		10.013 - 10.026	3	
27 0 / -0.1	E7		26.987 - 26.993	3	
67 +0.1 / 0	E7		67.014 - 67.043	3	
32	E7		32	3	
8 0 / -0.1	E7		7.991 - 7.997	3	
SECTION A-A					
134X 9.5 +0.05 / 0	E1		9.511 - 9.523 X 134	3	

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Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006-5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111201	REV	P.O. Number 5A10259
	Date Rec'd N/A	P.O. No. N/A	Part Name UPPER RIGHT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 04-06-08-10-12-14-16		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
AL CAST TOOL & JIG PLATE 2.5" PLATE	A2		CONFORMS	7	
NOTE: CLEAR ANODIZE	A1		CONFORMS	7	MTA QC 12
128 0 / -0.1	A3		127.923 - 127.979	7	
60	B3		59.991 - 60.007	7	
⌀4.1 THRU ⌀6.35 ↧ 17 24 PLACES	A3		4.1 6.35 X17 24 PLACES	7	
⌖ 0.04 A	A3		.019	7	
189 0 / -0.1	A4		188.961 - 188.999	7	
154.6 ±0.1	A4		154.573 - 155.609	7	
77.3 ±0.1	A4		77.284 77.314	7	
12.7 ±0.1	A3		12.691 - 12.712	7	
10.8 DRILL ↧ 20.500 M12x1.25 ISO – H TAP ↧ 13.5 6 PLACES	A5		CONFORMS	7	
26 ±0.1	A5		26.004 - 26.017	7	
56 ±0.1	A6		55.941 - 55.987	7	
32 ±0.1	B6		31.965 - 31.994	7	
47 ±0.1	B5		47.014 47.055	7	
50.35 ±0.1	B5		50.33 - 50.36	7	
20 ±0.1	B4		20.006 - 20.019	7	
5	B3		5	7	
5	B3		5	7	
5 HIGH CHARACTER ENGRAVE ASSEMBLY NO. AND SERIAL NO.	B3		CONFORMS	7	

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	James Siff	7-18-06		7	—

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Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006-5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111201	REV	P.O. Number 5410359
	Date Rec'd N/A	P.O. No. N/A	Part Name UPPER RIGHT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 04-06-08-10-12-14-16		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
5 DRILL ↧ 15 M6x1 ISO – H TAP ↧ 12.7 8 PLACES	C3		CONFORMS	7	
2X 60 ±0.1	C4		59.991 - 60.047	7	
3X 15 ± 0.1	C5		14.973 - 15.011	7	
27 ± 0.1	C5		26.989 - 27.017	7	
10	B5		9.9 - 10.1	7	
15	B5		15.1 - 15.2	7	
4.5 ± 0.1	D3		4.496 - 4.509	7	
15 ± 0.1	D3		15.004 15.046	7	
12X 9.5	D5		9.4 - 9.6	7	
10X 15 ± 0.1= 150 ± 0.1	D4		14.991-15.004 149.996-150.009	7	
22X 45° X .2 FOUR SIDES	D4		.2 X 45°	7	
29 DRILL ↧ THRU 8-32 UNC-2B TAP ↧ 10 12 PLACES	D3		CONFORMS	7	
2X 45° X .2 THREE SIDES	D5		.2 X 45°	7	
10	C3			7	
5 HIGH CHARACTER ENGRAVE MAGNET NO.	C3		CONFORMS	7	
10 X 15 ± 0.05 = 150 ± 0.05	C4		15.991-15.995 149.995-150.004	7	
15 ± 0.05	C3		15.001 - 15.021	7	
12 ± 0.05	C3		12.009 - 12.014	7	
4.2 0 / -0.1	D2		4.191 - 4.244	7	
45°	D2		45°	7	
(63.5)	D1		REFERENCE	7	

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Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006-5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111201	REV	P.O. Number 5410359
	Date Rec'd N/A	P.O. No. N/A	Part Name UPPER RIGHT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: -04-06-08-10-12-14-16		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
45° X 10	D1		45° X10	7	
0.5	D1		.49-.51	7	
2X 7.94	D1		7.93 - 7.95	7	
48 ± 0.1	D1		48.014 - 48.026	7	
5/16 DRILL ⇓ 21 3/8 -16 UNC-2B TAP ⇓ 17 2 PLACES	C1		CONFORMS	7	
-A-	C1		DATUM	7	
⌭ / 0.04	C1		w/IN .030	7	
29 ±0.1	C1		29.009 - 29.046	7	
10 ± 0.1	C2		9.984 - 10.003	7	
3X 29	C2		28.8 - 29.1	7	
30 0 / -0.03	C1		29.988 - 29.994	7	
49 0 / -0.1	C1		48.956 - 48.977	7	
10 ± 0.1	C2		9.994 - 10.027	7	
27 0 / -0.1	C2		26.974 - 26.983	7	
67 +0.1 / 0	D2		67.046 - 67.073	7	
32	D2		32.013 - 32.021	7	
8 0 / -0.1	D2		7.991 7.995	7	
SECTION A-A					
24X 9.5 +0.05 / 0	D6		9.521 - 9.532	7	

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Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111301	REV	P.O. Number 5A10359
	Date Rec'd N/A	P.O. No. N/A	Part Name LOWER RIGHT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: 0-4-06-08-010-12-14-16		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
AL CAST TOOL & JIG PLATE 2.5" PLATE	A2		CONFORMS	7	
NOTE: CLEAR ANODIZE	A1		CONFORMS	7	MTX 8C 12
128 0 / -0.1	A5		127.943 - 127.974	7	
60	B2		59.7 - 60.1	7	
Ø4.1 THRU Ø6.35 ↧ 17 24 PLACES	B4		4.1 6.35 X 17 (26X)	7	
⌭ 0.04 A	A4		.010	7	
189 0 / -0.1	A3		188.914 - 188.937	7	
154.6 ±0.1	A3		154.609 - 154.623	7	
77.3 ±0.1	A4		77.25 - 77.38	7	
12.7 ±0.1	A4		12.695 - 12.699	7	
10.8 DRILL ↧ 20.5 M12x1.25 ISO – H TAP ↧ 13.5 6 PLACES	A4		CONFORMS	7	
26 ±0.1	A4		26.004 - 26.021	7	
56 ±0.1	A4		55.994 - 56.009	7	
32 ±0.1	B4		31.976 - 31.992	7	
47 ±0.1	B4		47.013 - 47.027	7	
50.35 ±0.1	B3		50.33 - 50.36	7	
20 ±0.1	B3		20.019 - 20.027	7	
5	B4		5	7	
5	B4		5	7	
5 HIGH CHARACTER ENGRAVE ASSEMBLY NO. AND SERIAL NO.	B4		CONFORMS	7	

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	James [illegible]	7-18-06		7	

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Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006 5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ☒ Final ☐ Rework/Repair ☐ First Article	Vendor Name: N/A		Part No.: L143-111301	REV	P.O. Number: 5A10359
	Date Rec'd: N/A	P.O. No.: N/A	Part Name: LOWER RIGHT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: -04-06-09-10-12-14-16		Customer Name: ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
5 DRILL ↧ 15 M6x1 ISO – H TAP ↧ 12.7 8 PLACES	C4		CONFORMS	7	
2X 60 ±0.1	C3		59.987 - 59.999	7	
3X 15 ± 0.1	C3		14.995 - 15.004	7	
27 ± 0.1	C3		26.992 - 26.997	7	
10	B4		9.9 - 10.1	7	
15	B3		14.95 - 15.02	7	
4.5 ± 0.1	D4		4.465 - 4.504	7	
15 ± 0.1	D4		14.967 - 15.021	7	
12X 9.5	D3		9.470 - 9.520	7	
10X 15 ± 0.1 = 150 ± 0.1	D3		14.991 - 15.009 = 150.001 - 150.09	7	
22X 45° X .2 FOUR SIDES	D3		.2 X 45	7	
29 DRILL ↧ THRU 8-32 UNC-2B TAP ↧ 10 12 PLACES	D4		CONFORMS	7	
2X 45° X .2 THREE SIDES	D2		.2 X 45	7	
17	C4		16.95 - 17.01	7	
5 HIGH CHARACTER ENGRAVE MAGNET NO.	C4		CONFORMS	7	
10 X 15 ± 0.05 = 150 ± 0.05	C3		14.997 - 15.003 = 150.002 - 150.009	7	
15 ± 0.05	C4		14.999 - 15.005	7	
12 ± 0.05	C4		11.995 - 12.004	7	
4.2 0 / -0.1	D5		4.196 - 4.204	7	
45°	D6		45°	7	
(63.5)	D6		REFERENCE	7	

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	James Kiffer	7-18-06		7	

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Metalex Customized Machinery and Parts CERTIFIED ISO 9001 QUALITY MANAGEMENT	INSPECTION PLANNING & REPORT FORM Metalex Mfg. 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507	Job No. 2006-5681	Qty 7

Inspection Origin	Vendor (Sub-Tier Source) Identification		Customer Identification		
☐ Receiving ☐ In-Process ■ Final ☐ Rework/Repair ☐ First Article	Vendor Name N/A		Part No. L143-111301	REV	P.O. Number 54 10359
	Date Rec'd N/A	P.O. No. N/A	Part Name LOWER RIGHT MAGNET STRUCTURE BASE		
At Oper. 60	Serial Numbers: -04-06-08-010-12-014-016		Customer Name ARGONNE		

SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)	QTY ACC	QTY REJ
45° X 10	D6		10 X 45°	7	
0.5	D6		.490-.510	7	
2X 7.94	D6		7.939 - 7.941	7	
48 ± 0.1	C6		47.981 - 47.991	7	
5/16 DRILL ⇓ 21 3/8 -16 UNC-2B TAP ⇓ 17 2 PLACES	C6		CONFORMS	7	
-A-	C6		DATUM	7	
⌭ 0.04	C6		W/IN .030	7	
29 ±0.1	C6		28.990 - 29.010	7	
10 ± 0.1	C5		#9.976 - 10.014	7	
3X 29	C5		28.9 - 29.1	7	
30 0 / -0.03	C6		29.990 - 29.995	7	
49 0 / -0.1	C6		48.971 - 48.985	7	
10 ± 0.1	C5		10.014 - 10.021	7	
27 0 / -0.1	C5		26.943 - 26.971	7	
67 +0.1 / 0	D5		67.033 - 67.057	7	
32	D5		31.95 - 32.01	7	
8 0 / -0.1	D5		7.976 - 7.992	7	
SECTION A-A					
24X 9.5 +0.05 / 0	D1		9.509 - 9.514	7	

STAMP	INSPECTED BY	DATE	PAGE 3 OF 3	QTY ACC	QTY REJ
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