



AMERICAN GRINDING & MACHINE CO.

2000 N. MANGO AVE. CHICAGO, IL 60639  
773-889-4343 toll free: 877-988-4343  
FAX 773-889-3781

CERTIFICATE OF COMPLIANCE

Customer: Hi-Tech Mfg PHONE: ( 847 ) 678-1616  
4637 N. 25<sup>th</sup> Ave. FAX: ( 847 ) 678-1716  
Schiller Park, IL  
60176

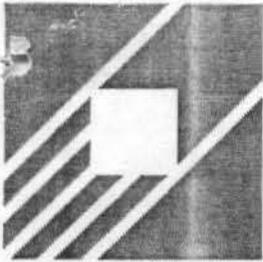
RE: PURCHASE ORDER 17028/17213

PRINT NUMBER(S) (if applicable) L1430802-200021 - 4 Pcs.  
4 Pcs / 4 Pcs. L1430802-200011 - 4 Pcs.

This is to certify that the services and /or material furnished by American Grinding & Machine Company on this order meets the requirements of listed purchase order and any prints furnished to us for that purchase order.

Signature of American Grinding Representative

09/10/07  
Date



**HI-TECH  
Manufacturing, Inc.**  
CNC Milling & Turning  
Prototypes & Special Machinery  
4637 N. 25th Ave.  
Schiller Park, IL 60176

Hi-Tech Manufacturing, Inc.  
4637 N. 25th Ave.  
Schiller Park, IL 60176  
USA

Ph: (847) 678-1616  
Fax: (847) 678-1617

**Purchase Order**

Number: 17213

Date: 09-Aug-07

**To**

American Grinding & Machine Co  
2000 N. Mango Ave.  
Chicago, IL 60639-2899  
USA

**Ship To**

Hi-Tech Manufacturing, Inc.  
4637 N. 25th Ave.  
Schiller Park, IL 60176  
USA

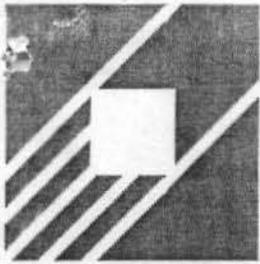
Ph: (773) 889-4343

Fax: (773) 889-3781

Ph: (847) 678-1616

Fax: (847) 678-1617

Terms		Ship Via	FOB	Issued By
		Deliver	Destination	JOE
Quantity	Description		Unit Price	Amount
	1. Please enter this order in accordance with prices, delivery and specifications shown below. 2. Please notify us immediately if you are unable to ship as specified. 3. Overshipment of product will not be accepted without prior approval from Hi-Tech. 4. UPS Ground shipments must be shipped COLLECT. Use account # 6E1-000. 5. No declared value charges will be accepted without prior approval by Hi-Tech.			
18 ea  Line: 001	L1430802-200011 INTERFACE PLATE (DOUBLE CAM) Vibratory Stress Relieve  Certifiante required	Rev: 03 Due: 09-Aug-07 Job: 55420B011	\$0.00 ea	\$0.00
2 ea  Line: 002	L1430802-200021 INTERFACE PLATE (SINGLE CAM) Vibratory Stress Relieve  Certifiante required	Rev: 03 Due: 16-Aug-07 Job: 55420B021	\$0.00 ea	\$0.00
			Total:	\$0.00



**HI-TECH  
Manufacturing, Inc.**

CNC Milling & Turning  
 Prototypes & Special Machinery  
 4637 N. 25th Ave.  
 Schiller Park, IL 60176

Hi-Tech Manufacturing, Inc.  
 4637 N. 25th Ave.  
 Schiller Park, IL 60176  
 USA

Ph: (847) 678-1616  
 Fax: (847) 678-1617

**Purchase Order**

Number: 17028

Date: 26-Jul-07

**To**

American Grinding & Machine Co  
 2000 N. Mango Ave.  
 Chicago, IL 60639-2899  
 USA

**Ship To**

Hi-Tech Manufacturing, Inc.  
 4637 N. 25th Ave.  
 Schiller Park, IL 60176  
 USA

Ph: (773) 889-4343

Fax: (773) 889-3781

Ph: (847) 678-1616

Fax: (847) 678-1617

Terms		Ship Via		FOB	Issued By
		Deliver		Destination	JOE
Quantity	Description			Unit Price	Amount
	1. Please enter this order in accordance with prices, delivery and specifications shown below. 2. Please notify us immediately if you are unable to ship as specified. 3. Overshipment of product will not be accepted without prior approval from Hi-Tech. 4. UPS Ground shipments must be shipped COLLECT. Use account # 6E1-000. 5. No declared value charges will be accepted without prior approval by Hi-Tech.				
8 ea  Line: 001	L1430802-200021 INTERFACE PLATE (SINGLE CAM) Vibratory Stress Relieve Certifiante required,DID NOT REC CERTS R.M	Rev: 03 Due: 01-Aug-07 Job: 55420B021		\$0.00 ea	\$0.00
				Total:	\$0.00



AMERICAN GRINDING & MACHINE CO.

2000 N. MANGO AVE. CHICAGO, IL 60639  
773-889-4343 toll free: 877-988-4343  
FAX 773-889-3781

CERTIFICATE OF COMPLIANCE

Customer: Hi-Tech Mfg PHONE: ( 847 ) 678-1616  
4637 N. 25<sup>th</sup> Ave. FAX: ( 847 ) 678-1716  
Schiller Park, IL  
60176

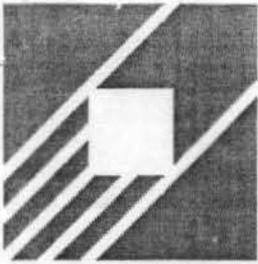
RE: PURCHASE ORDER 17155/17338

PRINT NUMBER(S) (if applicable) L143 0802-200030  
8 pcs.

This is to certify that the services and /or material furnished by American Grinding & Machine Company on this order meets the requirements of listed purchase order and any prints furnished to us for that purchase order.

Signature of American Grinding Representative

09, 10, 07  
Date



**HI-TECH  
Manufacturing, Inc.**

CNC Milling & Turning  
 Prototypes & Special Machinery  
 4637 N. 25th Ave.  
 Schiller Park, IL 60176

Hi-Tech Manufacturing, Inc.  
 4637 N. 25th Ave.  
 Schiller Park, IL 60176  
 USA

Ph: (847) 678-1616  
 Fax: (847) 678-1617

**Purchase Order**

Number: 17155

Date: 06-Aug-07

**To**

American Grinding & Machine Co  
 2000 N. Mango Ave.  
 Chicago, IL 60639-2899  
 USA

**Ship To**

Aamro Corp.  
 3110 S. 26th Ave.  
 Broadview, IL 60155  
 USA

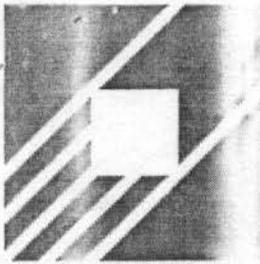
Ph: (773) 889-4343

Fax: (773) 889-3781

Ph: (708) 343-5543

Fax: (708) 343-5547

Terms		Ship Via	FOB	Issued By
		Deliver	Destination	JOE
Quantity	Description		Unit Price	Amount
	1. Please enter this order in accordance with prices, delivery and specifications shown below. 2. Please notify us immediately if you are unable to ship as specified. 3. Overshipment of product will not be accepted without prior approval from Hi-Tech. 4. UPS Ground shipments must be shipped COLLECT. Use account # 6E1-000. 5. No declared value charges will be accepted without prior approval by Hi-Tech.			
7 ea  Line: 001	L1430802-200030 PEDESTAL WELDMENT Vibratory Stress Relieve  Certifiate required	Rev: 01 Due: 10-Aug-07 Job: 55420B030	\$0.00 ea	\$0.00
			Total:	\$0.00



**HI-TECH  
Manufacturing, Inc.**

CNC Milling & Turning  
 Prototypes & Special Machinery  
 4637 N. 25th Ave.  
 Schiller Park, IL 60176

Hi-Tech Manufacturing, Inc.  
 4637 N. 25th Ave.  
 Schiller Park, IL 60176  
 USA

Ph: (847) 678-1616  
 Fax: (847) 678-1617

**Purchase Order**

Number: 17338

Date: 20-Aug-07

**To**

American Grinding & Machine Co  
 2000 N. Madison Ave.  
 Chicago, IL 60639-2899  
 USA

**Ship To**

Aamro Corp.  
 3110 S. 26th Ave.  
 Broadview, IL 60155  
 USA

Ph: (773) 889-4343

Fax: (773) 889-3781

Ph: (708) 343-5543

Fax: (708) 343-5547

Terms		Ship Via	FOB	Issued By
		Deliver	Destination	JOE
Quantity	Description		Unit Price	Amount
	1. Please enter this order in accordance with prices, delivery and specifications shown below. 2. Please notify us immediately if you are unable to ship as specified. 3. Reshipment of product will not be accepted without prior approval from Hi-Tech. 4. All Ground shipments must be shipped COLLECT. Use account # 6E1-000. 5. Undeclared value charges will be accepted without prior approval by Hi-Tech.			
12 - / // Line: 001	L1: 802-200030 PH: STAL WELDMENT Vibratory Stress Relieve  Certificate required	Rev: 01 Due: 24-Aug-07 Job: 55420B030	\$0.00 ea	\$0.00
			Total:	\$0.00

# LINTECH

1845 Enterprise Way  
Monrovia, CA 91016-4272  
Phone: 626.358.0110 - Fax: 626.303.2035

## CERTIFICATION

Date: 08/15/2007  
Sales Order No.: 42873  
Pick List No.: 52559

Sold To:  
IMAC  
1301-A Bowes Road  
Elgin, IL 30123

Ship To:  
Hi-Tech Manufacturing  
4637 No. 25<sup>th</sup> Ave.  
Schiller Park, IL 60176

Order No.: 7396

Order No.: None

Seller hereby certifies as follows - that all materials, parts and processes furnished against the above referenced purchase order were produced in conformance with all applicable specifications as referenced therein, and are on file subject to examination.

<u>Quantity Shipped</u>	<u>Part Number/Description</u>	<u>Serial Number</u>
(10)	206821 Rev."F" Single Axis Table	AA00733003 AA00733004 AA00733005 AA00733006 AA00733007 AA00733008 AA00733009 AA00733010 AA00733011 AA00733012

By:   
Q.C. Manager

# *LINTECH*

1845 Enterprise Way  
Monrovia, CA 91016-4272  
Phone: 626.358.0110 – Fax: 626.303.2035

## **CERTIFICATION**

Date: 08/22/2007  
Sales Order No.: 42873  
Pick List No.: 52621

Sold To:  
IMAC  
1301-A Bowes Road  
Elgin, IL 30123

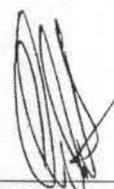
Ship To:  
Hi-Tech Manufacturing  
4637 No. 25<sup>th</sup> Ave.  
Schiller Park, IL 60176

Order No.: 7396

Order No.: None

Seller hereby certifies as follows - that all materials, parts and processes furnished against the above referenced purchase order were produced in conformance with all applicable specifications as referenced therein, and are on file subject to examination.

<u>Quantity Shipped</u>	<u>Part Number/Description</u>	<u>Serial Number</u>
(10)	206821 Rev."F" Single Axis Table	AA00734009 AA00734010 AA00734011 AA00734012 AA00734013 AA00734014 AA00734015 AA00734016 AA00734017 AA00734018

By:   
Q.C. Manager



# GAM Inspection Form

Record No. QRO-005-02

Revised: 09/29/05

Order #: 206059

Customer: IMAC Motion Cont

Serial #'s G45319-G45373

Part Number: 700402

Type Code: UPL-N23-010G

Qty: 55

### Verify mounting dimensions

Motor Mfg: NEMA Standard Model:

- Check Pilot Diameter =  
\*\* Check for EVERY adapter \*\*
- Check pilot height >
- Check bolt circle =
- Check hole size fits for:
- Check hole depth for flange thickness:
- Check shaft diameter =  
\*\* Check for EVERY gearbox \*\*
- Check shaft engagement >
- Verify ratio and "smoothness" of gearbox by spinning input
- Verify mounting bolts are correct qty and type of for all applicable adapters.
- Verify access hole plug is present and clamping ring bolt is accessible.
- Place bolts, plugs, and loose gears in a bag and wire to each individual gearbox.
- Verify key and keyways, if applicable
- Verify output coupling bore size, if applicable
- Verify shrink disc is present, if applicable
- Verify order is complete.

### Shipping Special Instruction

### Assemble gearbox / verify appearance and label

- Clean gearbox and paint if necessary
- Mount input coupling to gearbox if applicable.
- Mount input adapter / lantern to gearbox if applicable
- Verify label is correct to order
- Apply label to gearbox on a flat surface on gearbox.
- Apply clear plastic overlay label to top of original label.

### Customer Specific Notes (Inspection)

None

### Verify special options

### Notes:

Gearbox should include a 1/4" ID bushing. Check fit and place in bag with bolts.

Packaged By: \_\_\_\_\_

Date: \_\_\_\_\_

Inspected By: *Bill*

Date: *08-13-07*

*08-14-07*



# GAM Inspection Form

Record No. QRO-005-02  
Revised: 09/29/05

Order #: 206059      Customer: IMAC Motion Cont      Serial #'s G46005-G46011  
Part Number: 701058      Type Code: EPL-N34-490G-[N23-B01]      Qty: 7

### Verify mounting dimensions

Motor Mfg: NEMA Standard      Model: N23 - 3/8"

- Check Pilot Diameter = 1.5  
\*\* Check for EVERY adapter \*\*
- Check pilot height > 0.06
- Check bolt circle = 2.625
- Check hole size fits for: .205
- Check hole depth for flange thickness: 0.25
- Check shaft diameter = 0.375  
\*\* Check for EVERY gearbox \*\*
- Check shaft engagement > 0.82
- Verify ratio and "smoothness" of gearbox by spinning input
- Verify mounting bolts are correct qty and type of for all applicable adapters.
- Verify access hole plug is present and clamping ring bolt is accessible.
- Place bolts, plugs, and loose gears in a bag and wire to each individual gearbox.
- Verify key and keyways, if applicable
- Verify output coupling bore size, if applicable
- Verify shrink disc is present, if applicable
- Verify order is complete.

### Shipping Special Instruction

### Assemble gearbox / verify appearance and label

- Clean gearbox and paint if necessary
- Mount input coupling to gearbox if applicable.
- Mount input adapter / lantern to gearbox if applicable.
- Verify label is correct to order
- Apply label to gearbox on a flat surface on gearbox.
- Apply clear plastic overlay label to top of original label.

### Customer Specific Notes (Inspection)

None

### Verify special options

Notes:

**If order is for IMAC, make a copy of the inspection sheet and send in box for customer.**

Packaged By: \_\_\_\_\_ Date: \_\_\_\_\_

Inspected By: RJK Date: 9.24.07

*Certificate of Inspections*



**HTI-THE**

Manufacturing, Inc.

ISO 9001:2000  
CERTIFIED

*This certificate is presented to*

**Argonne National Laboratory**

Per PO # 7A-08189, part # #  
L1430401-100101 (PF-381-000-13) quantity of 114pcs  
L1430401-100201 (PF-381-000-23) quantity of 38pcs  
Have been inspected and met all drawing requirements.

**O.C. Supervisor**

*Mudloze*

09-07-07  
Date

*Certificate of Inspection*



TTI-TTEC

MANUFACTURING, INC.

ISO 9001:2000  
CERTIFIED

*This certificate is presented to*

## Argonne National Laboratory

Per PO # 7A-08189, part #  
L1430401-100103 (PF-381-000-15) quantity of 136 pcs  
L1430401-100303 (PF-381-002-15) quantity of 34 pcs  
Have been inspected and met all drawing requirements.

Q.C. Supervisor

*M. W. [Signature]*

09-07-07  
Date

LCLS UNDULATOR SUPPORT CAM TEST DATA  
ADVANCED PHOTON SOURCE  
ARGONNE NATIONAL LAB

08-1

TIME OF TEST: 9/17/2007 7:42:51 AM

POS#1 FWD

CAM ECCEN R (MICRONS) = 2181.40  
ROTARY POT GAIN = 345.20  
POT OFFSET (DEG) = 60.24  
DEVIATION RMS (MICRONS) = 13.96  
DEVIATION MAX (MICRONS) = 35.59  
DEVIATION MIN (MICRONS) = -28.53

POS#1 BWD

CAM ECCEN R (MICRONS) = 2184.94  
ROTARY POT GAIN = 345.20  
POT OFFSET (DEG) = 60.24  
DEVIATION RMS (MICRONS) = 11.81  
DEVIATION MAX (MICRONS) = 34.46  
DEVIATION MIN (MICRONS) = -21.97

POS#2 FWD

CAM ECCEN R (MICRONS) = 2179.96  
ROTARY POT GAIN = 345.20  
POT OFFSET (DEG) = 60.24  
DEVIATION RMS (MICRONS) = 14.30  
DEVIATION MAX (MICRONS) = 36.38  
DEVIATION MIN (MICRONS) = -27.51

POS#2 BWD

CAM ECCEN R (MICRONS) = 2184.71  
ROTARY POT GAIN = 345.20  
POT OFFSET (DEG) = 60.24  
DEVIATION RMS (MICRONS) = 11.84  
DEVIATION MAX (MICRONS) = 36.33  
DEVIATION MIN (MICRONS) = -22.47

POS#3 FWD

CAM ECCEN R (MICRONS) = 2179.19  
ROTARY POT GAIN = 345.20  
POT OFFSET (DEG) = 60.24  
DEVIATION RMS (MICRONS) = 13.72  
DEVIATION MAX (MICRONS) = 34.20  
DEVIATION MIN (MICRONS) = -24.16

POS#3 BWD

CAM ECCEN R (MICRONS) = 2184.06  
ROTARY POT GAIN = 345.20  
POT OFFSET (DEG) = 60.24  
DEVIATION RMS (MICRONS) = 11.40  
DEVIATION MAX (MICRONS) = 35.53  
DEVIATION MIN (MICRONS) = -24.23

=== TEST PASS! ===

--- END OF TEST ---

LCLS UNDULATOR SUPPORT CAM TEST DATA  
ADVANCED PHOTON SOURCE  
ARGONNE NATIONAL LAB

08-2

TIME OF TEST: 9/15/2007 11:58:49 AM

POS#1 FWD

CAM ECCEN R (MICRONS) = 1579.74  
ROTARY POT GAIN = 346.30  
POT OFFSET (DEG) = 77.87  
DEVIATION RMS (MICRONS) = 5.98  
DEVIATION MAX (MICRONS) = 22.00  
DEVIATION MIN (MICRONS) = -20.36

POS#1 BWD

CAM ECCEN R (MICRONS) = 1579.14  
ROTARY POT GAIN = 346.30  
POT OFFSET (DEG) = 59.02  
DEVIATION RMS (MICRONS) = 6.08  
DEVIATION MAX (MICRONS) = 18.35  
DEVIATION MIN (MICRONS) = -16.97

POS#2 FWD

CAM ECCEN R (MICRONS) = 1577.75  
ROTARY POT GAIN = 346.30  
POT OFFSET (DEG) = 77.87  
DEVIATION RMS (MICRONS) = 6.08  
DEVIATION MAX (MICRONS) = 21.17  
DEVIATION MIN (MICRONS) = -17.21

POS#2 BWD

CAM ECCEN R (MICRONS) = 1578.51  
ROTARY POT GAIN = 346.30  
POT OFFSET (DEG) = 77.87  
DEVIATION RMS (MICRONS) = 6.12  
DEVIATION MAX (MICRONS) = 18.70  
DEVIATION MIN (MICRONS) = -16.76

POS#3 FWD

CAM ECCEN R (MICRONS) = 1577.72  
ROTARY POT GAIN = 346.30  
POT OFFSET (DEG) = 77.87  
DEVIATION RMS (MICRONS) = 5.93  
DEVIATION MAX (MICRONS) = 16.23  
DEVIATION MIN (MICRONS) = -17.95

POS#3 BWD

CAM ECCEN R (MICRONS) = 1578.96  
ROTARY POT GAIN = 346.30  
POT OFFSET (DEG) = 77.87  
DEVIATION RMS (MICRONS) = 6.07  
DEVIATION MAX (MICRONS) = 19.34  
DEVIATION MIN (MICRONS) = -15.81

=== TEST PASS! ===

--- END OF TEST ---

LCLS UNDULATOR SUPPORT CAM TEST DATA  
ADVANCED PHOTON SOURCE  
ARGONNE NATIONAL LAB

08-3

TIME OF TEST: 9/15/2007 11:25:55 AM

POS#1 FWD

CAM ECCEN R (MICRONS) = 1553.52  
ROTARY POT GAIN = 346.20  
POT OFFSET (DEG) = 60.69  
DEVIATION RMS (MICRONS) = 5.30  
DEVIATION MAX (MICRONS) = 13.29  
DEVIATION MIN (MICRONS) = -14.01

POS#1 BWD

CAM ECCEN R (MICRONS) = 1550.60  
ROTARY POT GAIN = 346.20  
POT OFFSET (DEG) = 60.69  
DEVIATION RMS (MICRONS) = 5.60  
DEVIATION MAX (MICRONS) = 15.57  
DEVIATION MIN (MICRONS) = -14.02

POS#2 FWD

CAM ECCEN R (MICRONS) = 1552.35  
ROTARY POT GAIN = 346.20  
POT OFFSET (DEG) = 60.69  
DEVIATION RMS (MICRONS) = 5.42  
DEVIATION MAX (MICRONS) = 18.20  
DEVIATION MIN (MICRONS) = -12.70

POS#2 BWD

CAM ECCEN R (MICRONS) = 1549.38  
ROTARY POT GAIN = 346.20  
POT OFFSET (DEG) = 60.69  
DEVIATION RMS (MICRONS) = 5.45  
DEVIATION MAX (MICRONS) = 11.62  
DEVIATION MIN (MICRONS) = -15.63

POS#3 FWD

CAM ECCEN R (MICRONS) = 1551.57  
ROTARY POT GAIN = 346.20  
POT OFFSET (DEG) = 60.69  
DEVIATION RMS (MICRONS) = 5.37  
DEVIATION MAX (MICRONS) = 17.14  
DEVIATION MIN (MICRONS) = -13.36

POS#3 BWD

CAM ECCEN R (MICRONS) = 1549.78  
ROTARY POT GAIN = 346.20  
POT OFFSET (DEG) = 60.69  
DEVIATION RMS (MICRONS) = 5.44  
DEVIATION MAX (MICRONS) = 12.44  
DEVIATION MIN (MICRONS) = -14.25

=== TEST PASS! ===

--- END OF TEST ---

LCLS UNDULATOR SUPPORT CAM TEST DATA  
ADVANCED PHOTON SOURCE  
ARGONNE NATIONAL LAB

08-4

TIME OF TEST: 9/17/2007 8:01:42 AM

POS#1 FWD

CAM ECCEN R (MICRONS) = 1519.90  
ROTARY POT GAIN = 344.49  
POT OFFSET (DEG) = 59.94  
DEVIATION RMS (MICRONS) = 13.32  
DEVIATION MAX (MICRONS) = 28.50  
DEVIATION MIN (MICRONS) = -30.38

POS#1 BWD

CAM ECCEN R (MICRONS) = 1525.14  
ROTARY POT GAIN = 344.49  
POT OFFSET (DEG) = 59.94  
DEVIATION RMS (MICRONS) = 13.52  
DEVIATION MAX (MICRONS) = 32.62  
DEVIATION MIN (MICRONS) = -37.35

POS#2 FWD

CAM ECCEN R (MICRONS) = 1523.35  
ROTARY POT GAIN = 344.49  
POT OFFSET (DEG) = 59.94  
DEVIATION RMS (MICRONS) = 12.23  
DEVIATION MAX (MICRONS) = 26.50  
DEVIATION MIN (MICRONS) = -29.70

POS#2 BWD

CAM ECCEN R (MICRONS) = 1526.48  
ROTARY POT GAIN = 344.49  
POT OFFSET (DEG) = 59.94  
DEVIATION RMS (MICRONS) = 12.35  
DEVIATION MAX (MICRONS) = 31.69  
DEVIATION MIN (MICRONS) = -33.19

POS#3 FWD

CAM ECCEN R (MICRONS) = 1523.12  
ROTARY POT GAIN = 344.49  
POT OFFSET (DEG) = 59.94  
DEVIATION RMS (MICRONS) = 12.82  
DEVIATION MAX (MICRONS) = 26.92  
DEVIATION MIN (MICRONS) = -29.28

POS#3 BWD

CAM ECCEN R (MICRONS) = 1525.89  
ROTARY POT GAIN = 344.49  
POT OFFSET (DEG) = 59.94  
DEVIATION RMS (MICRONS) = 12.34  
DEVIATION MAX (MICRONS) = 31.02  
DEVIATION MIN (MICRONS) = -31.57

=== TEST PASS! ===

-- END OF TEST --

LCLS UNDULATOR SUPPORT CAM TEST DATA  
ADVANCED PHOTON SOURCE  
ARGONNE NATIONAL LAB

08-5

TIME OF TEST: 9/17/2007 8:18:00 AM

POS#1 FWD

CAM ECCEN R (MICRONS) = 1541.68  
ROTARY POT GAIN = 343.81  
POT OFFSET (DEG) = 58.60  
DEVIATION RMS (MICRONS) = 9.82  
DEVIATION MAX (MICRONS) = 27.17  
DEVIATION MIN (MICRONS) = -18.49

POS#1 BWD

CAM ECCEN R (MICRONS) = 1543.92  
ROTARY POT GAIN = 343.81  
POT OFFSET (DEG) = 58.60  
DEVIATION RMS (MICRONS) = 9.53  
DEVIATION MAX (MICRONS) = 23.80  
DEVIATION MIN (MICRONS) = -19.09

POS#2 FWD

CAM ECCEN R (MICRONS) = 1541.57  
ROTARY POT GAIN = 343.81  
POT OFFSET (DEG) = 58.60  
DEVIATION RMS (MICRONS) = 10.53  
DEVIATION MAX (MICRONS) = 31.00  
DEVIATION MIN (MICRONS) = -20.46

POS#2 BWD

CAM ECCEN R (MICRONS) = 1543.13  
ROTARY POT GAIN = 343.81  
POT OFFSET (DEG) = 58.60  
DEVIATION RMS (MICRONS) = 10.16  
DEVIATION MAX (MICRONS) = 28.07  
DEVIATION MIN (MICRONS) = -20.68

POS#3 FWD

CAM ECCEN R (MICRONS) = 1541.57  
ROTARY POT GAIN = 343.81  
POT OFFSET (DEG) = 58.60  
DEVIATION RMS (MICRONS) = 9.95  
DEVIATION MAX (MICRONS) = 29.81  
DEVIATION MIN (MICRONS) = -19.55

POS#3 BWD

CAM ECCEN R (MICRONS) = 1543.47  
ROTARY POT GAIN = 343.81  
POT OFFSET (DEG) = 58.60  
DEVIATION RMS (MICRONS) = 9.70  
DEVIATION MAX (MICRONS) = 23.87  
DEVIATION MIN (MICRONS) = -18.92

=== TEST PASS! ===

--- END OF TEST ---

## INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR: HI-TECH MANUFACTURING, INC.

PART NAME: INTERFACE PLATE (SINGLE CAM)

DRAWING #: L1430802-200021 (03)

SERIAL #: 08

P.O. #: 7A-08189

DATE: 08-15-07

### ACCEPTANCE CRITERIA

1. Visually inspect for damage.	Accept/Reject
---------------------------------	---------------

### CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Flatness of Datum A	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<math>\leq 0.01</math>	Accept/Reject
Perpendicularity of Datum B to A	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<math>\leq 0.01</math>	Accept/Reject
Parallelism of upper edge on lower Cam Block C to B	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<math>\leq 0.01</math>	Accept/Reject
Parallelism of lower edge on upper Cam Block C to B	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<math>\leq 0.01</math>	Accept/Reject
Parallelism of upper edge on upper Cam Block C to B	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<math>\leq 0.01</math>	Accept/Reject
Width of mounting surface on lower Cam Block	142.01	+0.02/-0	142.02	Accept/Reject
Width of mounting surface on upper Cam Block	142.01	+0.02/-0	142.01	Accept/Reject
Separation of inner edges of Cam Blocks	457.43	+0.08/-0.08	457.45	Accept/Reject

INSPECTOR: Simon

QA Supervisor: Muelaga

TEST EQUIPMENT USED: CMM, gage blocks, dial indicator.

COMMENTS:

## INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR: METALEX, INC.

PART NAME: UNDULATOR GIRDER ASSY

DRAWING #: L1430401-100400 (05)

SERIAL #: 08

P.O. #: 7A-08189

DATE: 09-24-07

### ACCEPTANCE CRITERIA

1. Visually inspect for damage. Accept/Reject

### CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Perpendicularity of Datum B to C	<math>\leq 0.025</math>	<math>\leq 0.025</math>	<math>\leq 0.025</math>	Accept/Reject
Perpendicularity of Datum A to C	<math>\leq 0.025</math>	<math>\leq 0.025</math>	<math>\leq 0.025</math>	Accept/Reject
True position of 2 D2 hole to 2 D3 holes	<math>\leq 0.03</math>	<math>\leq 0.03</math>	<math>\leq 0.03</math>	Accept/Reject
Parallelism of support pad surface to Datum C	<math>\leq 0.07</math>	<math>\leq 0.07</math>	#1 <math>\leq 0.05</math>	Accept/Reject
			#2 <math>\leq 0.05</math>	
			#3 <math>\leq 0.03</math>	
			#4 <math>\leq 0.07</math>	
Distance from Datum C to support pad surface	109.50	+0.2/-0.2	#1 109.55	Accept/Reject
			#2 109.52	
			#3 109.58	
			#4 109.46	

INSPECTOR: Simon

QA Supervisor: Muelaz

TEST EQUIPMENT USED: feeler gage, dial indicator, micrometer, precision square.

COMMENTS:

## INSPECTION / ACCEPTANCE REPORT OF COMPONENTS FOR AS-BUILT DRAWINGS

VENDOR: HI-TECH MANUFACTURING, INC.

PART NAME: INTERFACE PLATE (DOUBLE CAM)

DRAWING #: L1430802-200011 (03)

SERIAL #: 08

P.O. #: 7A-08189

DATE: 08-15-07

### ACCEPTANCE CRITERIA

1. Visually inspect for damage.	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
---------------------------------	--

### CRITICAL DIMENSIONS (mm)

FEATURE	TARGET	TOLERANCE	MEASURED VALUE	
Flatness of Datum A	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
Perpendicularity of Datum B to A	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
Parallelism of inner edge on Cam Block A to B	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
Parallelism of inner edge on Cam Block B to B	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
Parallelism of outer edge on Cam Block B to B	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<math>\leq 0.02</math>	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
Width of mounting surface on Cam Block B	142.01	+0.02/-0	142.01	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
Width of mounting surface on Cam Block A	254.00	+0.02/-0	254.01	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
Separation of outer edges of Cam Blocks	685.42	+0.08/-0.08	685.43	<input checked="" type="radio"/> Accept <input type="radio"/> Reject

INSPECTOR: *Simon*

QA Supervisor: *Muelaza*

TEST EQUIPMENT USED: CMM, gage blocks, dial indicator.

COMMENTS:

Metalex PO# 171829-BL-7558

# Certificate of Conformance

Customer: Metalex Mfg. Inc.  
Address: 5750 Cornell Rd.  
Cincinnati, Oh: 45242  
Attention: Quality Engineering Dept.

METALEX  
Q. A. DEPT  
ACCEPTED  
DATE 7/16/09  
BY TC

Item	Qty.	Part Number	Rev. Part Name	Job #
1	5	B62WZ111	BATCH# 0E 1637L TILE CIAD H.S. SW4026 Shelf life 36 months	7558

Shelwin Williams  
Supplier Name

certifies that all materials, processes, etc. furnished to

Metalex, for the purchase order number stated above, comply with all conditions stated in the P.O. for the items shown.

Signed/Dated:  7.16-0  
Supplier Quality Rep.



SHERWIN-WILLIAMS.

SHERWIN-WILLIAMS  
3143 E KEMPER RD  
SHARONVILLE OH 45241

Visit [www.sherwin-williams.com](http://www.sherwin-williams.com)  
Store 1246 KEVIN  
(513) 771-8572  
Fax - (513) 771-8590

PACKING  
SLIP  
No. 7233-5

ACCOUNT: 6538-0111-8 JOB 01 METALEX MFG

METALEX MFG  
5750 CORNELL RD  
CINCINNATI OH 45242 2010

PO: 71829-EL-7553

ORDER: OE002500701246

DATE: 07/16/07

TIME: 8:08 AM

METALEX  
Q. A. DEPT  
ACCEPTED  
DATE 7/16/07  
BY TC

E16/13651 11

SALES NUMBER	SIZE	PRODUCT	DESCRIPTION	QUANTITY
6405-18999	GALLON	B62W2111	TC HS EX WHT A	5
Color: SW4026 SLATE GRAY				
<u>BAC Blend-a-Color</u> OZ    32    64    128				
B1	Black	2	16 1 1	
G2	New Green	-	3 - -	
Y3	Deep Gold	-	2 - -	
Sher-Color Formula				
TOTAL LINES				1
				5

O E 1637L

<sup>MVT</sup>  
**RECEIVED**  
JUL 16 2007  
METALEX MFG.  
BY CD

MERCHANDISE RECEIVED IN GOOD ORDER BY:

BILLY BLANTON

DATE (CENTRALIZED INVOICE)

Metalex Manufacturing  
L1430401-100400 Girder Support  
Hi-Tech Purchase Order No. 16185

## Visual Weld Inspection Report

Metalex Job: 2007-7558                      Serial Number: 7A-08198- ( 08 )

Welding and Visual Welding Inspection Requirements:

*Per SOW L143-00093 Section 4.1.4.2: For all welded parts, the welding practice shall conform to the Structural Welding Code, ANSI/AWS D1.1-D1.1M:2004..*

*Per SOW L143-00093 Section 4.1.4.2.2: All structural welds shall be visually inspected as defined in section 6.9 of the Structural Welding Code. The contractor shall certify that the welds were inspected and were acceptable.*

---

Part Print L1430401-100400 sheet 1 of 3.

Fabrication Stage#1

Features: W1 and W2

Acceptable  (Y/N) YES                      Initial: B.H.                      Date: 6/28/07.

Fabrication Stage#2

Features: W3, W4 and W5

Acceptable  (Y/N) YES                      Initial: B.H.                      Date: 7/2/07 .

Fabrication Stage#3

Features: W6, W7, W8, W9, W10, W11 and W12

Acceptable  (Y/N) YES                      Initial: B.H.                      Date: 7/3/07 .

Verification of completion of weld visual inspection:

Completed By:                        Date: 7/3/07

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



## CERTIFICATE OF CONFORMANCE

Date:	<u>09/12/2007</u>	Metalex Job#	<u>2007-7558</u>
Customer:	<u>Hi-Tech Manufacturing, Inc.</u>	Purchase Order #	<u>16185</u>
	<u>4637 N. 25<sup>th</sup> Ave.</u>	MX Packing List #	<u>40943 &amp; 41061</u>
	<u>Schiller Park, IL 60176</u>		
Attention:	<u>Simon Sorsher</u>		

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 # *
001	7	L1430401-100400	6	Support Girder	See Below

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

COMMENTS: "FIRST ARTICLE" submitted on Metalex Shipper # 408586, dated 08/13/07 (S/N: 7A-08198-01).

Applicable serial numbers of this shipment are 7A-08198-05 thru 7A-08198-09, 7A-08198-011, and 7A-08198-012.

Some internal documents in this quality package may contain documents certifying to revision level "5" or "5V". Metalex certifies these documents and processes conform to the rev 6 revision level and the parts conform to revision level "6".

Metalex is in compliance with Statement of Worksopce Document No. L143-00093, Revision New, dated 12/12/06.

Manufactured from Metalex purchased material. Reference heat numbers: T7257, T7232, T7130, T7141, U9728, 0129862, X25899, J62810, JF6843, J70358, and 478765.

	<u>Thomas Clark</u>	<u>9/12/07</u>
Metalex Representative Signature	Print Name	Date

The Cincinnati Steel Treating Co  
5701 Mariemont Ave.  
Cincinnati, Ohio 45227 (513) 271-3173

Certification ID  
36335

Order ID  
96401

CERTIFICATION OF COMPLIANCE

CUSTOMER

Metalex Mfg., Inc.  
5750 Cornell Road

Cincinnati OH  
Blkt Ord # 45242

Purchase Order 71627 Customer Cust

Qty	Part No / Description	Material
4	L1430401-100400 SUPPORT GIRDER	A36

REV#5, S/N 7A-08198-05, 7A-08198-06, 7A-08198-07,  
7A-08198-08

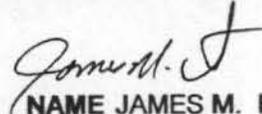
STRESS RELIEVE PER AWS D1.1 REV. 2004.  
NOTE: SUPPORT TO PREVENT DISTORTION.  
HEAT TREAT CHARTS REQUIRED.  
CERTIFICATIONS REQUIRED.

RESULTS

THE ABOVE PARTS HAVE BEEN HEAT TREATED TO THE FOLLOWING:

HEAT TREATMENT                      STRESS RELIEVED                      PER AWS D1.1 REV 2004

WE HEREBY CERTIFY THAT THE ABOVE PARTS WERE PROCESSED IN ACCORDANCE WITH THE SPECIFICATIONS AND INSTRUCTIONS SPECIFIED ON THE ABOVE PURCHASE ORDER AND THAT THE RESULTS AND REPORT THEREOF ARE AS STATED. ALL TESTING AND INSPECTION PROCEDURES EMPLOYED WERE IN ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS AND THE RESULTS THEREOF ARE ON FILE.

  
NAME JAMES M. HUNT  
TITLE QA MANAGER  
DATE 7/6/2007

METALEX	MTX QC 28
Q. A. DEPT	
ACCEPTED	
DATE 7/11/07	
BY TC	

Hi-Tech 755B

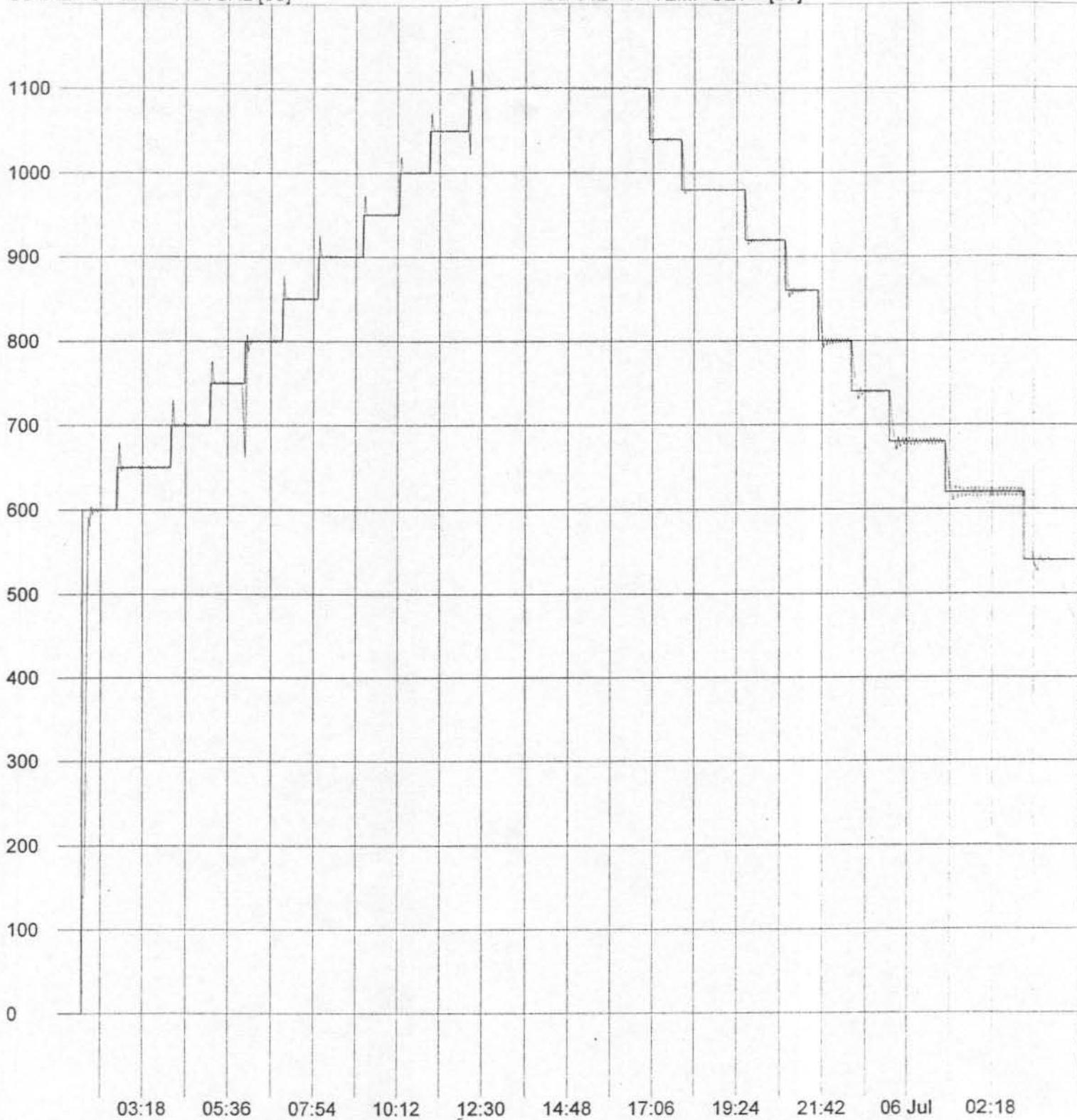
# Datalog Report

Start: 7/5/2007 1:00:00 AM  
End: 7/6/2007 4:30:00 AM  
Sample every 1 minute(s)  
Printed 7/6/2007 10:41:01 AM

Customer: METALEX MFG.  
Part#: L1430401-100400  
PO#: 71627  
CST Order #: 96401

CB 512 - 0 - TEMP ACTUAL [00]

CB 512 - 1 - TEMP SET [01]





**INSPECTION PLANNING & REPORT FORM**

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

Job No.  
**2007-7558**

Qty  
**1**

Inspection Origin		Vendor (Sub-Tier Source) Identification		Customer Identification		
<input type="checkbox"/> Receiving <input type="checkbox"/> In-Process <input checked="" type="checkbox"/> Final <input type="checkbox"/> Rework/Repair <input type="checkbox"/> First Article	Vendor Name N/A		Part No. L1430401-100400	REV 5V	P.O. Number 16185	
	Date Rec'd N/A	P.O. No. N/A	Part Name Undulator Support Girder			
At Oper. 170	Serial Numbers: 08		Customer Name Hi-Tech Manufacturing			
SPECIFICATION	B/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 TEMPERATURES TO BE RECORDED IN CELSIUS \*\***

**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 +/-2 DEG. CELSIUS.**

PART TEMPERATURE <i>BEFORE</i> INSPECTION (Record in Celsius)	SOW 4.5.4	CONTACT THERMOMETER MX1794	20.50° C	MTX QC 8
PART TEMPERATURE <i>DURING</i> INSPECTION (Record in Celsius)	SOW 4.5.4	CONTACT THERMOMETER MX1794	20.52° C	MTX QC 8
PART TEMPERATURE <i>AFTER</i> INSPECTION (Record in Celsius)	SOW 4.5.4	CONTACT THERMOMETER MX1794	20.52° C	MTX QC 8

**CRITICAL DIMENSIONS PER SECTION 4.5.2.2 OF DOC. # L143-00093**

**SHEET 2 – TOP VIEW**

A) Flatness of Datum B of .030 [.001]	N/A	CMM MX1269	.009	MTX QC 8
B) Perpendicularity of Datum B to Datum C [ ] .25 [.010]   A   C	E8	CMM MX1269	.011	MTX QC 8
C) Flatness of datum A of .030 [.001]	N/A	CMM MX1269	.015	MTX QC 8
D) Perpendicularity of Datum A to Datum C [ ] .25 [.010]   C	D8	CMM MX1269	.025	MTX QC 8
E) 9X Ø 6.338 – 6.350 marked "D1", "D2" & "D3"	E7 E6 E3	CMM MX1269	6.338 – 6.348	MTX QC 8
F) True position of "D3" holes 2X [⊕] .1 [.004]   A   B   C [⊕] .03 [.0012]   B   C	E3	CMM MX1269	.023 .051 ----- .005	MTX QC 8
F) True position of "D2" holes 2X [⊕] .1 [.004]   A   B   C [⊕] .03 [.0012]   B   C	E6	CMM MX1269	.021 .033 ----- .004	MTX QC 8
F) Locations of "D1" holes 444.50 [17.500]	E7	CMM MX1269	444.534	MTX QC 8

STAMP MTX QC 8	INSPECTED BY <i>THOMAS G COOK</i>	DATE <i>8/1/07</i>	PAGE 1 OF 2	QTY ACC <i>i</i>	QTY REJ <i>0</i>
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**INSPECTION PLANNING & REPORT FORM**  
 Metalex Mfg.  
 5750 Cornell Rd ! Cincinnati, OH 45242 ! (513) 489-0507

Job No. **2007-7558**  
 Qty **1**

Inspection Origin		Vendor (Sub-Tier Source) Identification		Customer Identification		
<input type="checkbox"/> Receiving	Vendor Name N/A	Part No. L1430401-100400		REV 5V	P.O. Number 16185	
<input type="checkbox"/> In-Process		Date Rec'd N/A	P.O. No. N/A		Part Name Undulator Support Girder	
<input checked="" type="checkbox"/> Final	Serial Numbers: 08			Customer Name Hi-Tech Manufacturing		
<input type="checkbox"/> Rework/Repair						
<input type="checkbox"/> First Article						
At Oper. 170						
SPECIFICATION	B/P ZONE	INSPECTION METHOD / GAGE NO.	ACTUAL DIMENSION / GAGE VERIFICATION (Range of Readings or Accept Status)		QTY ACC	QTY REJ

1968.50 [77.500]	E4	CMM MX1269	1968.484		MTX QC 8
3492.50 [137.500]	E2	CMM MX1269	3492.448		MTX QC 8
2X 523.6 [20.61]	E1	CMM MX1269	523.570 523.561	523.558	MTX QC 8
3185.26 [125.404]	D2	CMM MX1269	3185.193		MTX QC 8
845.29 [33.179]	D6	CMM MX1269	845.266		MTX QC 8
2X 95.10 [3.744]	D8	CMM MX1269	95.078	95.067	MTX QC 8

SHEET 2 - SIDE VIEW

A) <input type="checkbox"/> C <input type="checkbox"/> .030 [.0012] 2X Surface "J"	C8	CMM MX1269	.014		MTX QC 8
B) <input type="checkbox"/> C <input type="checkbox"/> .05 [.002]	C8	CMM MX1269	.024		MTX QC 8

SHEET 2 - BOTTOM VIEW

A) 2X 749.78 ± .15	C7	CMM MX1269	749.786	749.788	MTX QC 8		
B) 2X 2340.00 ± .15	C5	CMM MX1269	2339.947	2339.932	MTX QC 8		
C) 4X <input type="checkbox"/> .05 [.002]   B	B2	CMM MX1269	.007	.007	.007	.001	MTX QC 8
D) 4X <input type="checkbox"/> .030 [.0012]   A	B7	CMM MX1269	.003	.004	.005	.001	MTX QC 8

SHEET 3 - SECTION B-B

E) <input type="checkbox"/> .07 [.003]   C	C2	CMM MX1269	.025	.017	.020	.025	MTX QC 8
F) 4X 109.47 ± .08	C2	CMM MX1269	109.400 - 109.470		MTX QC 8		

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 8
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STAMP MTX QC 8	INSPECTED BY THOMAS G COOK	DATE 8/1/01	PAGE 2 OF 2	QTY ACC 1	QTY REJ 0
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