TECHNICAL STAMPING, INC.

50600 E. RUSSELL SCHMIDT BLVD.
CHESTERFIELD TWP., MI 48051
PH(586)948-3285 / FX(586)948-3286

MATERIAL CERTIFICATION

CUSTOMER NAME	CUSTOMER ORDER NUMBER	DATE
Midwest Structural Products	73376	5/25/2016

PART NUMBER	CUSTOMER LOT NO.	LOT NUMBER	QUANTITY
1-1/2" F436	150NWA3	0316-197	1,250

STEEL GRADE	HEAT	C	MN	P	S	SI	AL	REVISION
1050	A47334	.50	.78	.012	.002	.24	.030	ASTM F-436-10

SPECIFICATION	ACTUAL	GAUGE
O.D - 2.937 - 3.063	2.947 - 2.950	CALIPER
I.D - 1.625 - 1.688	1.629 - 1.632	CALIPER, PIN GAUGE
THICKNESS- .136 - .177	.141 - .144	MICROMETER
FLAT- Max .010	0.002	CALIPER
HEAT TREAT - 38 - 45 HRC	39 - 44	
PLATING-	N/A	
OTHER	N/A	

WE HEARBY CERTIFY THIS PRODUCT WAS PRODUCED UNDER A ISO-9001:2008 QUALITY ASSURANCE SYSTEM. ISO-9001:2008 CERTIFICATION NUMBER-1265 - DATE OF REGIS. JAN. 3, 2003 ALL MATERIALS ARE MADE AND MELTED IN THE U.S.A. THIS PRODUCT WAS MANUFACTURED IN CHESTERFIELD, MICHIGAN, U.S.A. THIS PRODUCT CONFORMS TO ALL REQUIREMENTS FOR WASHERS AS PRODUCED ACCORDING TO A.S.T.M. F-436-10. THE ABOVE TEST RESULTS APPLY ONLY TO THE ITEMS TESTED. THIS TEST REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT PRIOR WRITTEN APPROVAL.

CERTIFIED
ISO 9001:

Sherree Nichols
AUTHORIZED SIGNATURE

8444

INDUSTRIAL STEEL TREATING COMPANY, INC

613 Carroll Street Jackson, MI 49202
P.O. Box 98 Jackson MI, 49204
Voice: 517-787-6312 Fax: 517-787-5441

HEAT TREAT CERTIFICATION

Customer:
TECHNICAL STAMPING, INC.
Attn: SHANNON
50600 E. RUSSELL SCHMIDT
CHESTERFIELD, MI 48051

Certification Date:
04/07/2016

ISO/TS 16949:2009 IST Registered

Page: 1 of 1

Order Details

Part Number:	**F0112**	Blue Print Rev:	**1279**
Packing Slip:	**6436**	Material Type:	**1030 -1050**
Purchase Order:		Quantity:	**33,711**
IST Order Number:	**227270-1**	Net Weight:	**6,877.0**
Lot Number:	**0316-197**	Part Desc:	**WASHER**
Heat Number:	**A47334**	Comments:	**5 TUB#.634.804.625.090 .507**

SPECIFICATIONS

RC 38 - 45
HEAT TREATED IN THE USA

RESULTS

RC 39 - 44
HEAT TREATED IN THE USA

Approval:

Tom Levy - Quality Assurance Supervisor

Contact

Tom Levy - Quality Assurance Supervisor
Voice: 517-780-9043 Fax: 517-787-5441
E-Mail: tolevy@indstl.com

This Certification cannot be reproduced except in full, without written authorization from Industrial Steel Treating Company, LLC.

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3/8/2016

CERTIFIED REPORT OF CHEMICAL ANALYSIS AND MECHANICAL TESTS

ACCREDITED
TESTING CERT # 2914.01

Web Copy

ArcelorMittal

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SOLD TO	VENDOR
SABRE STEEL 23680 RESEARCH DRIVE FARMINGTON HILLS MI	ArcelorMittal Riverdale LLC. 13500 South Perry Avenue Riverdale, IL 60827
SHIP TO	**ORDER INFORMATION**
SABRE STEEL C/O VOSS TAYLOR C/O VOSS STEEL CORP 7925 BEECH DALY RD TAYLOR MI	PO#: 007530/3 LoadID # 02503431 SO#: 831816 Carrier: COMMON CARRIER Date Of Issuance/ Shipped: 3/7/2016

ORDERED DIMENSIONAL INFORMATION

Heat	Coil	Thickness (in)	Width (in)	Weight (tons)	Reduction Ratio
A47334	102771	0.136	48.000	22.5	93.72% (16:1)

HEAT NUMBER IS BEING USED AS CERTIFICATE NUMBER. COUNTRY OF ORIGIN/EXPORT COUNTRY IS USA. FOR QUESTIONS CONCERNING IMPORTATION OF THIS MATERIAL PLEASE CONTACT: JOSE CISNEROS; 1 SOUTH DEARBORN ST. , CHICAGO, IL, 60603; TEL +11 (312) 899.3796 EML Jose.Cisneros@arcelormittal.com

PRODUCT INFORMATION

Grade	Part Number	Product Description	Comments
SAE 1050 MOD4	HB1364800-	Hot Band Prime	

This material was melted and manufactured in the USA. All products are strand cast and free of mercury or radioactive elements. Elongation based on 2" gage length.

MECHANICAL / PHYSICAL TEST RESULTS*

Heat	Coil	Yield (ksi)	Tensile (ksi)	El (%)	Dir	N-Value	N-Range	Hardness	Ft-lbs	°F	Size	Dir

* Material tested in accordance with ISO 17025 by an accredited lab.

CHEMICAL TEST RESULTS

Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Cb	V	Al
A47334	.50	.78	.012	.002	.24	.02	.02	.04	.00	.001	.002	.030

N	Sn	B	Ti	Ca	Sb
.0034	.002	.0000	.0040	.0018	.0010

Chemical analysis was performed by ArcelorMittal Riverdale, Inc. in accordance with the Current Version of ASTM E415 and E1019.

We hereby certify the above is correct as contained in the records of the corporation. All tests peformed to the current standard to date unless otherwise noted. Uncertainties of measurements estimated and are available upon request. These results relate only to the items tested. Test results marked with an asterisk (*) were reported by an external accredited lab and with double asterisk(**) were reported by an internal laboratory.

Ryan N Fritz
Manager - Quality
13500 South Perry Ave., Riverdale IL 60827
T+708 392 1077 | Ryan.Fritz@ArcelorMittal.com

8444

CERTIFICATE OF CONFORMANCE

SABRE STEEL INC.
23680 RESEARCH DRIVE
FARMINGTON HILLS, MI 48335
248-615-0500

DATE: 3/25/16

SOLD TO: TECHNICAL STAMPING
50600 E. RUSSELL SCHMIDT BLVD.
CHESTERFIELD TWP., MI 48051

SHIP TO: TECHNICAL STAMPING
50600 RUSSELL SCHMIDT BLVD.
CHESTERFIELD TWP., MI 48051

Cust P/O# S9136 Part# F0112M Sales Ord 841133
Work Ord 520065

GRADE: HRP&O C1050

DATE SHPPD: 3/25/16

Wt.Shipped 14000

CHEMICAL ANALYSIS

Heat Number A47334

C : .50	Mn: .78	P : .012	S : .002
Si: .24	Ti: .004	Cr: .040	Mo: .005
Cu: .020	Al: .030	Cb: .001	Va: .002
		Ni: .020	

PHYSICAL PROPERTIES

Rockwell: RB 95MAX Chemistry: C1050

MADE AND MELTED IN THE USA

WE HEREBY CERTIFY THE ABOVE FIGURES ARE ACCURATELY STATED, MEET YOUR MATERIAL REQUIREMENTS AND ARE TRACEABLE IN OUR RECORDS BACK TO THE PRODUCER AND/OR AN ACCREDITED TEST LABORATORY.

.....
QUALITY ASSURANCE MANAGER