

SCOT FORGE



6001 Winn Rd., Box 8
Spring Grove, IL 60061
847/587-1000
FAX 847/587-2000

PO # 01-42213 MATERIAL CERTIFICATION

H00160 3 SS
Heat # G14312U

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CASTLE METALS 3400 N WOLF RD FRANKLIN PARK, IL 60131-1319		590173 a7871R0
		04/15/2008

Material Heat Treat Destructive Test Finish Reference Size Surface	316/316L Stainless Steel in accordance with Castle Metals specification 3316-98 Rev 28, ASTM A 193-07 (except paragraph 7.3), ASME SA 193 (except paragraph 6.3) 2007 Edition, ASTM A 276-06, ASTM A 479-06a, ASME SA 479 2007 Edition, Chemistry of ASTM A 182-07a, Chemistry of ASME SA 182 2007 Edition, Chemistry of AMS-S-7720 AMEND 1 COMP 316 (except Copper .75 max.), AMS 5648K 5653F per Specification per Specification Rough Machine to sizes shown Straightness = 1/8" in 5 FT Access Code: 31026 OD Random Len (inches) 16 84 to 168 500 RMS Saw Cut	A. M. CASTLE & CO. 7420 51 AVENUE EDMONTON, ALBERTA T6B 5S5 780-461-5757 (800) 806-6660 FAX 780-461-5818
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G14312U	1	(MILL - UNIVERSAL STAINLESS)
MSDS Previously Sent		

Note: Additional prefix letter stamped on product with heat number is for our inventory purposes only and not relevant to heat number.

Chemical Composition (Wt. %)

C	Mn	P	S	Si	Ni	Cr	Mo	Cu	V	N
0.028	1.74	0.024	0.024	0.26	10.22	16.31	2.12	0.39	0.12	0.088

Mechanical Properties:

Pcs	Tensile PSI	Yield ¹ PSI	Elongation in 2 - %	Reduction of Area %	Comments
1	78,000	36,600	62.4	78	LONGITUDINAL

¹(Offset: .2%)

Brinell Hardness Results:

Pcs	3000 Kg Load
1	170

CASTLE METALS CORP.
 DATE RCVD 4/18/08
 IAC 31026
 APPROVED BY [Signature]

Approved by: [Signature]
 RICHARD GABEYS
 QUALITY ASSURANCE DIR.

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590173 87871R0

Other Testing or Inspections:

Solution anneal at 1925 degrees for 13 hours

ALL STEEL HAS BEEN MELTED AND MANUFACTURED IN THE UNITED STATES

5.48:1 FORGING REDUCTION FROM ORIGINAL INGOT

CAST METHOD - INGOT

Co = 0.08

NO WELD REPAIRS PERFORMED

MACRO ETCH PERFORMED PER ASTM E381 WITH RESULTS OF S1, R1, ~~E4~~ 780-461-5818

CORROSION SENSITIVE TEST PERFORMED PER ASTM A262 WITH RESULTS OF 0% DITCHING OBSERVED

A.M. CASTLE & CO.

7420 51 AVENUE
EDMONTON, ALBERTA T6B 5S5
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Compliance Statements:

We certify that the material listed was not processed with mercury bearing instruments and/or equipment which might cause contamination, nor was mercury handled in the immediate vicinity during the manufacturing process.

In accordance with the requirements of the Pressure Equipment Directive, all testing, inspection, and documentation is produced in accordance with EN 10204:2004 Type 3.1 and ISO 10474 Type 3.1.B

Material provided has been produced by Scot Forge under and approved quality program as defined within the Scot Forge QA Manual, Revision Dated 10/11/04.

The recording of false, fictitious or fraudulent statements or entries on this document may be punishable as a felony under Federal Statute.

The products supplied are in compliance with the quantity and quality requirements of the purchase order and specifications noted. The test reports represent the actual attributes of the items furnished and the test results are in full compliance with all applicable specifications and order requirements.

Approved by:


RICHARD JABRYS
QUALITY ASSURANCE DIR.