

CERTIFICATE OF TESTS
 CERT SERIAL# 000537170

ABNAHMEPRUEFZEUGNIS
CERTIFICAT DE CONTROLE

TALLEY METALS
 A Carpenter Company

 Talley Metals Technology, Inc.
 P.O. Box 2496
 Hartsville, SC 29551 Tel: 843.335.7540 Fax: 843.335.7540

02/13/06

CUSTOMER / BESTELLER / CLIENT

SERIAL / VERKAUFER / VENDEUR PAGE 1 OF 2

 A.M. CASTLE & CO
 3400 N WOLF RD
 FRANKLIN PARK , IL 60131

HVL

CUSTOMER ORDER NO. / BESTELL-NR. / N° DE COMMANDE	CARPENTER NO. / WERKS-NR. / N° DE REFERENCE INTERNE	DATE / DATUM / DATE	WEIGHT / GEWICHT / POIDS
01-49975-01	W97091	02/13/06	2811

HEAT NUMBER / SCHMELZ-NR. / N° DE COULEE: 151752

 PRODUCT DESCRIPTION: TYPE 316L CMO ANNEALED COLD FINISH
 PART NUMBER: IAC 6010

 SPECIFICATION: CASTLE 3316-90 REV 3 (06/20/05)
 QO-S-763F (06/27/96)
 AMS 5648 REV K (08/ /02) UNS S31600
 AMS 5653 REV F (08/ /02) UNS S31603
 ASTM-A182-05A (CHEM & MECH PROPS)
 ASTM-A193-04C (EXCEPT PARA 6.3)
 ASTM-A276-05A
 ASTM-A479-05
 ASME-SA182 2004 EDITION (CHEM & MECH PROPS)
 ASME-SA193 2004 EDITION (EXCEPT PARA 6.3)
 ASME-SA479 2004 EDITION
 AMS-S-7720 (09/ /97) (COMP 316 - EXCEPT COPPER 0.75 MAX)

SIZE 2.125000 IN. (53.97 MM) RD BAR

PRIMARY HEAT CHEMISTRY (WT%): (TEST METHOD IS SHOWN IN PARENTHESIS)

C (COM)	MN (XRF)	SI (XRF)	P (XRF)	S (COM)	CR (XRF)
0.022	1.42	0.68	0.021	0.023	17.42
NI (XRF)	MO (XRF)	CU (XRF)	CO (XRF)	N (FUS)	
10.43	2.06	0.20	0.13	0.065	

 CASTLE C.M.O.
 MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM AND ALPHA SOURCE
 CONTAMINATION.
 INTERGRANULAR CORROSION TESTED TO ASTM-A262, PRACTICE E - ACCEPTABLE.
 ANNEALED MICROSTRUCTURE FREE FROM CONTINUOUS GRAIN BOUNDARY CARBIDE
 PRECIPITATION (NETWORK).
 NO WELD REPAIR.
 THIS MATERIAL CONFORMS TO THE TECHNICAL REQUIREMENTS OF THE AMS SPECIFICATION
 REFERENCED ABOVE.
 THIS MATERIAL IS CAPABLE OF CONFORMING TO THE TECHNICAL REQUIREMENTS OF ASTM A
 182.

DISCS MACROETCHED AND APPROVED

HARDNESS AS SHIPPED, HB 179 (MIDRADIUS)

YIELD STRENGTH, (0.20 %) KSI (MPA)	50.5 (348)
TENSILE STRENGTH, KSI (MPA)	94.0 (648)
ELONGATION IN 2.00", %	53.0
REDUCTION OF AREA, %	69.0

MAR 29 2006

CONTINUED ON NEXT PAGE

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02/13/06

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SELLER / VERKÄUFER / VENDEUR PAGE 2 OF 2

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HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE 151752
GRAIN SIZE PER ASTM E112: 7

NO WELD REPAIR PERFORMED
MATERIAL PRODUCED ON THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A.
WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE IN ACCORDANCE WITH THE
PURCHASE ORDER AND SPECIFICATION REQUIREMENTS.

STEPHANIE E. MCCULLUM
QUALITY ASSURANCE ENGINEER
CARPENTER TECHNOLOGY CORPORATION

CASTLE METALS FP
DATE REC'D 2/15/06 IAC bold
APPROVED BY: [Signature]

TITAN
303
MAR 29 2006

Stephanie E. McCullum

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INDEX 12-344