

CERTIFICATE OF TESTS
CERT SERIAL# 000462703

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE



TALLEY METALS
A Carpenter Company

Talley Metals Technology, Inc.
P.O. Box 2498
Hartsville, SC 29551 Tel. 843.335.7540 Fax. 843.335.6465

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08/16/04

CUSTOMER / BESTELLER / CLIENT

147# 151129

SELLER / VERKAUFER / VENDEUR PAGE - 1

EMJ COMPANY
1900 MITCHELL BLVD
SCHAUMBURG, IL 60193

HVL

CUSTOMER ORDER NO./BESTELL.-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
P732620-423-001	W61538	08/16/04	10395

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE: 151129

PRODUCT DESCRIPTION: TYPE 316/316L STAINLESS ANNEALED ROUGH TURNED
PART NUMBER: 509356

SPECIFICATION: TALLEY 316L-T1A (12/21/98)
 QQ-S-763F (06/27/96)
 AMS 5648 REV K (08/ /02)
 AMS 5653 REV F (08/ /02)
 ASTM-A182-02 (CHEM ONLY)
 ASTM-A193-04 (CL 1)
 ASTM-A276-04
 ASTM-A314-97 REAPPROVED(2002)
 ASTM-A320-03
 ASTM-A479-04
 ASTM-A484-03A
 ASTM-A580-98 (SIZES .500" AND UNDER ONLY)
 ASME-SA182 2001 EDITION-A03 ADDENDA (CHEM ONLY)
 ASME-SA193 2001 EDITION (CL 1)
 ASME-SA320 2001 EDITION
 ASME-SA479 2001 EDITION
 AMS-QQ-S-763A (02/ /03)

R 169639
R 169592
R 169634

SIZE 3.750000 IN. (95.25 MM) RD BAR

PRIMARY HEAT CHEMISTRY(WT%):

C	MN	SI	P	S	CR
0.014	1.57	0.55	0.025	0.022	16.66
NI	MO	CU	CO	N	
10.22	2.06	0.25	0.16	0.052	

INTERGRANULAR CORROSION TESTED TO ASTM-A262, PRACTICE E - ACCEPTABLE.
ANNEALED MICROSTRUCTURE FREE FROM CONTINUOUS GRAIN BOUNDARY CARBIDE
PRECIPITATION (NETWORK).

DISCS MACROETCHED AND APPROVED

HARDNESS AS SHIPPED, HB - 170 (MIDRADIUS)

YIELD STRENGTH, (0.20 %) KSI(MPA) 34.8 (240)
 TENSILE STRENGTH, KSI(MPA) 80.0 (552)
 ELONGATION IN 2.00", % 59.0
 REDUCTION OF AREA, % 77.0

CONTINUED ON NEXT PAGE

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FORM 17-244



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08/16/04
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SELLER / VERKÄUFER / VENDEUR PAGE - 2

EMJ COMPANY
1900 MITCHELL BLVD
SCHAUMBURG, IL 60193

HVL

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERK-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
P732620-423-001	W61538	08/16/04	10395

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE: 151129
GRAIN SIZE PER ASTM E112: 4

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

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