

Tube Forgings of America, Inc.
 5200 NW Front Avenue
 Portland, OR 97210
 ISO 9001-2000 Certified
 8/30/2005

Sold To: PLESA ANÁHUAC y CÍAS, S.A. de C.V.
 AV. VALLE DE LAS ALAMEDAS NO. 66-A
 TULTITLAN, EDO., MEX. C. P.54940

TFA Sales Order :
 Customer ID: 38350
 Customer PO Reference:
 Attention To:

TFA Heat Code: 483NN
 Grade: WPB
 TFA Part ID: C24058
 Description: 12 X 10 STD ECC
 Quantity: 1
 Mill: TAMSA
 Mill Heat : 18479
 Process: WPB-CN1MIW
 Customer Part ID:

Test Bar Type: ROUDN
 Yield (PSI): 54000
 Tensile (PSI): 75500
 % Elong In 2": 33.00
 B.H.N. :
 Tensile Orientation: LONG

C	MN	P	S	SI	MO	CR	NI	CU	V	CB	B	TI	AL	C.E.
0.160	1.080	0.010	0.016	0.250	0.031	0.050	0.030	0.056	0.036	0.010	0.0010	0.0100		0.37

Coupon Size:	<u>Ft. Lbs</u>	<u>% Shear</u>	<u>Lateral Expansion (Mils)</u>
Charpy V notch test at degrees F:	1:	1:	1:
Charpy Orientation:	2:	2:	2:
	3:	3:	3:
	Avg:	Avg:	

1. THESE FITTINGS WERE NORMALIZED AT 1650F AND AIR COOLED. 2. THESE FITTINGS WERE S2 TENSILE TESTED TO VERIFY PHYSICAL PROPERTIES AFTER THE HEAT TREAT PROCEDURE. 3. THE STARTING MATERIAL IS SEAMLESS PIPE. 4. THE HARDNESS DOES NOT EXCEED 197BHN PART TO PART. 5. THIS PRODUCT IS SEAMLESS. 6. THIS PRODUCT WAS MANUFACTURED BY (MILLS IRON WORKS INC) IN ACCORDANCE WITH THE QUALITY PROGRAM REQUIREMENTS OF (TUBE FORGINGS OF AMERICA INC).

THE MATERIAL IS MANUFACTURED TO ASTM A 234 GR WPB REV: 05, ALSO PER ASME SEC II SA 234 GR WPB,2004 EDITION THRU ALL ADDENDAS AT TIME OF ORDER. 2. DESIGN AND DIMENSIONS TO ASME B16.9-2003 OR MSS-SP-75-04 AS APPLICABLE BY DESIGN. 3.PER NACE MR-01-75, 2003 REVISION. OUR QUALITY SYSTEM HAS BEEN REGISTERED BY (ABS) TO (ISO-9001. REV: 2000), CERTIFICATE #: 30248. OUR ORGANIZATIONAL STRUCTURE AND CERTIFICATION COMPLIES WITH (EN 10204-3.1.B). OUR FITTINGS SATISFY THE MATERIAL REQUIREMENT OF (PED 97/23-EC ANNEX 1-4.3).



John Peachey
 John Peachey, Mgr. Quality Assurance