

CERTIFIED MATERIAL TEST REPORT

Tube Forgings of America, Inc.
 5200 NW Front Avenue
 Portland, OR 97210
 ISO 9001-2000 Certified
 6/26/2006

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: P616
 Grade: WPB
 TFA Part ID: 00201
 Description: 10 SCH 20 LR 90
 Quantity:
 Mill: TAMSA
 Mill Heat : 17463
 Process: WPB-H
 Customer Part ID:

Test Bar Type: STRIP
 Yield (PSI): 59996
 Tensile (PSI): 84106
 % Elong In 2": 38.00
 B.H.N. : 115
 Tensile Orientation: LONGITUDINAL

C	MN	P	S	SI	MO	CR	NI	CU	V	CB	B	TI ^a	AL	C.E.
0.170	1.090	0.010	0.003	0.220	0.050	0.050	0.030	0.070	0.035	0.000	0.0000	0.0000	0.0210	0.39

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 HOT FORMED BETWEEN 1150F AND 1800F AND AIR COOLED. 2. THE HARDNESS DOES NOT EXCEED 197 BHN PART TO PART. 3. STARTING MATERIAL IS ASTM A 106 GRB SEAMLESS PIPE. 4. THIS PRODUCT IS SEAMLESS.

THE MATERIAL IS MANUFACTURED TO ASTM A 234 GR WPB REV: 03. ALSO PER ASME SEC II SA 234 GR WPB, 2001 EDITION THRU ALL ADDENDAS AT TIME OF ORDER. 2. DESIGN AND DIMENSIONS TO ASME B16.9-2003 OR MSS-SP-75-98 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).

EMAILED TO HUMBERTO DEL CASTILLO
 RE: PO#1459/TFA #135900
 26 PCS



Certificate: 30248



John Peachey
 John Peachey, Mgr. Quality Assurance