

Tube Forgings of America, Inc.
5200 NW Front Avenue
Portland, OR 97210
ISO 9001-2000 Certified
8/4/2004



QUALITY CERTIFICATE



84-04

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

TFA Sales Order : 129471
Customer ID: 38350
Customer PO Reference: 8270
Attention To:

Ship To: SPECIALISTS IN TRANSIT
FORWARDING
1801 MARKLEY MODERN INDUSTRIAL
PARK
LAREDO, TX 78041

TFA Heat Code: M851
Grade: WPB
TFA Part ID: 00019
Description: 20 STD LR 90
Quantity:
Mill: TAMSA
Mill Heat : 99046
Process: WPB-H1
Customer Part ID:

Test Bar Type: STRIP
Yield (PSI): 56327
Tensile (PSI): 78303
% Elong In 2": 46.00
B.H.N. : 108
Tensile Orientation: LONG

C	MN	P	S	SI	MO	CR	NI	CU	V	CB	B	TI	AL	C.E.
0.180	1.090	0.011	0.004	0.230	0.020	0.050	0.030	0.050	0.033	0.000	0.0000	0.0000	0.0190	0.388

Coupon Size:	Ft. Lbs	% Shear	Laterral Expansion (Mils)
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 1150FAND1800F AND AIR COOLED. 2.THE HARDNESS DOES NOT EXCEED 197 BHN PART TO PART. 3. STARTING MATERIAL IS SEAMLESS PIPE WHICH MEETS THE MELTING,CHEMICAL AND PHYSICAL REQUIREMENTS OF ASTM A 106 GR B. 4. THIS PRODUCT IS SEAMLESS.

THE MATERIAL IS MANUFACTURED TO ASTM A 234 GR WPB FROM THE 2001 VOLUME,REV: 00,ALSO PER ASME SEC II SA 234 GR WPB,1998 EDITION THRU ALL ADDENDAS AT TIME OF ORDER. 2. DESIGN AND DIMENSIONS TO ASME B16.9-2001 OR MSS-SP-75-98 AS APPLICABLE BY DESIGN. 3.PER NACE MR-01-75, 2002 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, Mgr. Quality Assurance