CERTIFIED MATERIAL TEST REPORT

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:

Customer PO Reference:

Attention To:

TFA Heat Code: Grade:

949UN

WPB C22090

TFA Part ID:

Description: 24 X 16 STD CONC

1

Quantity: Mill:

USS A40118

Mill Heat: Process:

WPB-CN1MIW

Customer Part ID:

Test Bar Type:

Yield (PSI): Tensile (PSI):

73770 34.00

ROUND

48500

38350

% Elong In 2" B.H.N. :

Tensile Orientation:

LONG

С	MN	P	s	SI	МО	CR	NI	CU	V	СВ	В	TI	AL	C.E.
0.180	1.060	0.008	0.009	0.250	0.010	0.070	0.030	0.030	0.005	0.001				0.38

Coupon Size:	Ft. Lbs	% Shear	Lateral Expansion (Mils)
Charpy V notch test at degrees F:	1:	1: 2:	1: 2:
Charpy Orientation:	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 5. THIS PRODUCT IS SEAMLESS. 6. THIS PRODUCT WAS MANUFACTURED BY (MILLS DOES NOT EXCEED 197BHN PART TO PART. 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 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).

Heat Code: 949UN Grade WPB

Page 2 of 5





John Peachey, Mgr. Quality Assurance