Material Test Report

Heat Code: HWC

ISO 9001:2008 Certified

An Ameri-Forge Group Company
13770 Industrial Rd. Houston, TX 77015
Sales: (713) 868-4421 Fax: (713) 455-8366

PLESA ANAHUAC Y CIAS	PO: 9545	Sales Order: 90421	Line: 15
SA DE CV AV. VALLE DE LAS	Item Code: 0601600102-0021F	Qty Shipped: 15	
ALAMEDAS 66-0	Item Desc: FLG 06.00 0600 WN RF XH		
54940 TULTITLAN, EDO, MEX	Supplier: CMC	Supplier Heat: 3017707	

Spec: ASTM A105/A105N-(10)/ASME SA 105/SA 105N-(08a) Section II Part A - Normalized

Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.20			
Mn	Manganese	1.03		✓	7439-96-5
P	Phosphorous	0.012			
S	Sulphur	0.025			
Si	Silicon	0.22			
Cu	Copper	0.28		✓	7440-50-8
Ni	Nickel	0.08		✓	7440-02-0
Cr	Chromium	0.10		✓	7440-47-3
Mo	Molybdenum	0.020			
V	Vanadium	0.002			
Cb	Columbium	0.001			
C.E.		0.42			

Mechanical Testing

Test Lab	AFG
Test Bar Size	Test Piece
HBW	156 - 156
Elg (%)	32
RA (%)	55
Tensile Specimen Size (in)	.495
Tensile (ksi)	77.8
Yield (ksi)	47.7
Gauge Length	2

Heat Treat

Norm. Temp. (F)	1675
Norm. (Hrs)	4
Norm. Cooling Type	AIR
Norm. Location	AFG

Other

MILL	CMC-TEXAS
MHC	3017707
DESC:	PO#P9212-19456-10

Product compliant with NACE MR0175, latest edition and dimensions to ANSI B16.5
No Weld repair performed. Chemical Analysis results shown are actual. Forgings are capable of passing hydrostatic test compatible with the appropriate rating. Elongation taken from a round specimen. All material supplied under this order is certified to be free of mercury contamination and no mercury bearing equipment was used in manufacturing, fabrication or testing. Yield strength was determined using the 0.2% offset method.
No welding performed.

EPCRA Supplier Notification: This product may contain one or more toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986) and 40 C.F.R. Part 372. Potentially reportable chemicals are indicated with a checkmark in the "EPCRA" column and a Chemical Abstract Services (CAS) registry number is provided for each such chemical in addition to the percent by weight of the chemical present in this product. It is your responsibility alone to determine whether your facility is required to submit a Toxic Release Inventory Report under EPCRA Section 313.

Certification No.: 196509
Certification Date: 12/16/2010

This report is issued in compliance with the requirements of EN10204 3.1 / ISO 10474 3.1.b

Nicholas Tepovich - Metallurgic Lab Manager