



Material Test Report

Heat Code: csv

An Ameri-Forge Group Company
13770 Industrial Rd., Houston, TX 77015

ISO 9001:2000 Certified

Sales: (713) 868-4421 Fax: (713) 455-8366

PLESA ANAHUAC Y CIAS SA DE CV AV. VALLE DE LAS ALAMEDAS 66-0 54940 TULTITLAN, EDO MEX	PO: 5526	Sales Order: 67635	Line: 19
	Item Code: 0601400101-0021F		Qty Shipped: 25
	Item Desc: FLG 04.00 0600 WN RF STD A105		NRM COFFR
	Supplier: CMC		Supplier Heat: 3004710
Spec: ASTM A 105/A 105M-(05)/ASME SA 105/SA 105M-(08a) Section II Part A - Normalized			

Element	(%wt)	Ladle	Product	EPCRA	CAS#	Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.21				Ni	Nickel	0.09		✓	7440-02-0
Mn	Manganese	0.90		✓	7439-96-5	Cr	Chromium	0.11		✓	7440-47-3
P	Phosphorous	0.009				Mo	Molybdenum	0.031			
S	Sulphur	0.013				V	Vanadium	0.001			
Si	Silicon	0.21				Cb	Columbium	0.003			
Cu	Copper	0.23		✓	7440-50-8	C.E.		0.41			

Mechanical				Heat Treat			
Test Lab		AFG		Norm. Temp. (F)		1675	
Test Bar Size		SACRIFICIAL PIECE		Norm. (Hrs)		4.0	
HBW		149-149		Norm. Cooling Type		AIR	
Elg (%)		32.0		Norm. Location		AFG	
RA (%)		52.0					
Tensile Specimen Size (in)		0.247					
Tensile (ksi)		78.9		Other			
Yield (ksi)		47.6		EF		Y	
Gauge Length		1.00					

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.

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.: 155535
Certification Date: 12/10/2008

Nicholas Tepovich - Metallurgic Lab Manager