



Material Test Report

Heat Code: ATZ

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: 4871	Sales Order: 65826	Line: 4
	Item Code: 0603600100-0021F	Qty Shipped: 45	
	Item Desc: FLG 06.00 0600 BL RF	A105	NRM COFFR
	Supplier: CMC	Supplier Heat: 3001902	
Spec: ASTM A 105/A 105M-03/ASME SA 105/SA 105M-04 Normalized			

Element	(%wt)	Ladle	Product	EPCRA	CAS#	Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.19				Ni	Nickel	0.12		✓	7440-02-0
Mn	Manganese	0.90		✓	7439-96-5	Cr	Chromium	0.16		✓	7440-47-3
P	Phosphorous	0.013				Mo	Molybdenum	0.038			
S	Sulphur	0.022				V	Vanadium	0.001			
Si	Silicon	0.21				Cb	Columbium	0.003			
Cu	Copper	0.27		✓	7440-50-8	C.E.		0.40			

Mechanical				Heat Treat			
Test Lab	AFG	Norm. Temp. (F)	1675				
Test Bar Size	SACRIFICIAL PIECE	Norm. (Hrs)	4.0				
HBW	156-156	Norm. Cooling Type	AIR				
Elg (%)	32.0	Norm. Location	AFG				
RA (%)	60.0	Other					
Tensile Specimen Size (in)	0.500	Country of Origin	USA (US)				
Tensile (ksi)	74.5	EF	Y				
Yield (ksi)	44.9						
Gauge Length	2.00						

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.: 146175
Certification Date: 7/18/2008

Puneet Sagar - Plant Metallurgist