



Material Test Report

Heat Code: AVR

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	PO: 4871	Sales Order: 65826	Line: 14
SA DE CV AV. VALLE DE LAS	Item Code: 0301400101-0020F	Qty Shipped: 75	
ALAMEDAS 66-0	Item Desc: FLG 04.00 0300 WN RF STD A105 NHT COFFR		
54940 TULTITLAN, EDO MEX	Supplier: CMC	Supplier Heat: 3002106	
Spec: ASME SA-105/SA-105M 2004 Section II/ASTM A105/A105M-03			

Element	(%wt)	Ladle	Product	EPCRA	CAS#	Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.21				Cr	Chromium	0.15		✓	7440-47-3
Mn	Manganese	0.94		✓	7439-96-5	Mo	Molybdenum	0.045			
P	Phosphorous	0.009				V	Vanadium	0.002			
S	Sulphur	0.012				Cb	Columbium	0.003			
Si	Silicon	0.23				C.E.		0.430			
Cu	Copper	0.21		✓	7440-50-8	CuNiCrMo		0.55			
Ni	Nickel	0.15		✓	7440-02-0	CrMo		0.19			

Mechanical			Other		
Test Lab	AFG		Country of Origin	USA (US)	
Test Bar Size	SACRIFICIAL PIECE				
HBW	163-163				
Elg (%)	34.0				
RA (%)	62.0				
Tensile Specimen Size (in)	0.250				
Tensile (ksi)	80.6				
Yield (ksi)	46.8				
Gauge Length	1.00				

Product compliant with NACE MR0175, latest edition.
Product compliant with and meets all requirements of ASTM A105/ASME SA105, latest edition.

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 1980) 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.: 146174
Certification Date: 7/18/2009

Puneet Sagar

Puneet Sagar - Plant Metallurgist