



Material Test Report

Heat Code: XMU

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

ISO 9001:2000 Certified

Sales: (713) 888-4421 Fax: (713) 455-8366

PLESA ANAHUAC Y CIAS	PO: 5177	Sales Order: 66675	Line: 1
SA DE CV AV. VALLE DE LAS	Item Code: 0156400100-0020F		Qty Shipped: 10
ALAMEDAS 66-0	Item Desc: FLG 04.00 0150 TH RF		A105 NHT COFFR
54940 TULTITLAN, EDO MEX	Supplier: KOPPEL		Supplier Heat: 457637
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	0.19				Cr	Chromium	0.16		✓	7440-47-3
Mn	Manganese	0.90		✓	7439-96-5	Mo	Molybdenum	0.040			
P	Phosphorous	0.009				V	Vanadium	0.005			
S	Sulphur	0.004				Cb	Columbium	0.001			
Si	Silicon	0.19				C.E.		0.402			
Cu	Copper	0.23		✓	7440-50-8	CuNiCrMo		0.52			
Ni	Nickel	0.09		✓	7440-02-0	CrMo		0.20			

Mechanical			Other		
Test Lab	APG		Country of Origin	USA (US)	
Test Bar Size	SACRIFICIAL PIECE		EF	Y	
HBW	146-149				
Elg (%)	32.0				
RA (%)	62.0				
Tensile Specimen Size (in)	0.247				
Tensile (ksi)	77.0				
Yield (ksi)	46.3				
Gauge Length	1.00				

Product compliant with NACE MR0175 / ISO 15156, latest edition and dimensions to ANSI B16.5
 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 1988) 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.: 150508
 Certification Date: 10/2/2008

Nicholas Tepovich - Metallurgic Lab Manager