



Material Test Report

Heat Code: XMU

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

ISO 9001:2000 Certified

Sales: (713) 868-4421 Fax: (713) 455-8386

PLESA ANAHUAC Y CIAS SA DE CV AV. VALLE DE LAS ALAMEDAS 66-0 54940 TULTITLAN, EDO MEX	PO: 5101	Sales Order: 66536	Line: 5
	Item Code: 0156400100-0020F		Qty Shipped: 15
	Item Desc: FLG 04.00 0150 TH RF		A105 NHT COFFR
	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		AFG		EF		Y	
Test Bar Size		SACRIFICIAL PIECE					
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 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.: 149809
Certification Date: 9/23/2008

Nicholas Tapovich - Metallurgic Lab Manager

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