



Material Test Report

Heat Code: zvz

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: 4161	Sales Order: 63578	Line: 1
	Item Code: 0151400102-0020F		Qty Shipped: 657
	Item Desc: FLG 04.00 0150 WN RF XH A105		NHT COFFR
	Supplier: CMC		Supplier Heat: 258117
Spec: ASTM A 105/A 105M-03/ASME SA 105/SA 105M-04, Melt Practice EF			

Element	(%wt)	Ladle	Product	EPCRA	CAS#	Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.19				Cr	Chromium	0.18		✓	7440-47-3
Mn	Manganese	0.91		✓	7439-96-5	Mo	Molybdenum	0.029			
P	Phosphorous	0.014				V	Vanadium	0.001			
S	Sulphur	0.024				Cb	Columbium	0.002			
Si	Silicon	0.19				C.E.		0.408			
Cu	Copper	0.27		✓	7440-50-8	CuNiCrMo		0.58			
Ni	Nickel	0.10		✓	7440-02-0	CrMo		0.21			

Mechanical				Other			
Test Lab		AFG		Country of Origin		USA (US)	
Test Bar Size		SACRIFICIAL PIECE		EF		Y	
HBW		163-163					
Elg (%)		28.0					
RA (%)		57.0					
Tensile Specimen Size (in)		0.247					
Tensile (ksi)		81.9					
Yield (ksi)		45.6					
Gauge Length		1.00					

PRODUCT COMPLIANT WITH DIMS. TO ANSI B16.5
Product compliant with NACE MRO175, latest edition.

Product compliant with and meets all requirements of ASTM A105/ASME SA105-05.
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.: 134946
Certification Date: 2/13/2008

Puneet Sagar
Puneet Sagar - Plant Metallurgist