Material Test Report

Heat Code: ALZ

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: 4450	Sales Order: 64557	Line: 3
SA DE CV AV. VALLE DE LAS	Item Code: 0601600102-0021F	Qty Shipped: 30	
ALAMEDAS 66-0	Item Desc: FLG 06.00 0600 WN RF XH A105 NRM COFFR		
54940 TULTITLAN, EDO MEX	Supplier: CMC	Supplier Heat: 3001388	

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	0.20				Ni	Nickel	0.08		✓	7440-02-0
Mn	Manganese	0.91		✓	7439-96-5	Cr	Chromium	0.09		✓	7440-47-3
P	Phosphorous	0.007				Mo	Molybdenum	0.025			
S	Sulphur	0.019				V	Vanadium	0.001			
Si	Silicon	0.18				Cb	Columbium	0.002			
Cu	Copper	0.24		✓	7440-50-8	C.E.		0.40			

Mechanical

Test Lab	AFG
Test Bar Size	SACRIFICIAL PIECE
HBW	149-149
Elg (%)	36.0
RA (%)	62.0
Tensile Specimen Size (in)	0.495
Tensile (ksi)	74.7
Yield (ksi)	44.8
Gauge Length	2.00

Heat Treat

Norm. Temp. (F)	1675
Norm. (Hrs)	4.0
Norm. Cooling Type	AIR
Norm. Location	AFG

Other

Country of Origin	USA (US)
EF	Y

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.: 142812

Certification Date: 5/30/2008

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

Puneet Saggar

Puneet Saggar - Plant Metallurgist