



# Material Test Report

Heat Code: HAG

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: 6649	Sales Order: 70253	Line: 15
SA DE CV AV. VALLE DE LAS	Item Code: 0301912180-0021F	Qty Shipped: 3	
ALAMEDAS 66-0	Item Desc: FLG 12.00 0300 WN RF 80		
54940 TULTITLAN, EDO, MEX	Supplier: Warren Steel Holdings Supplier Heat: 10311		
Spec: ASTM A105/A105M-(05)/ASME SA 105/SA 105M-(08a) Section II Part A - Normalized			

Element	(%wt)	Ladle	Product	EPCRA	CAS#	Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.19				Ni	Nickel	0.09		✓	7440-02-0
Mn	Manganese	0.83		✓	7439-96-5	Cr	Chromium	0.10		✓	7440-47-3
P	Phosphorous	0.015				Mo	Molybdenum	0.02			
S	Sulphur	0.009				V	Vanadium	0.001			
Si	Silicon	0.16				Cb	Columbium	0.0005			
Cu	Copper	0.32		✓	7440-50-8	C.E.		0.38			

Mechanical Testing				Heat Treat			
Test Lab		AFG		Norm. Temp. (F)		1675	
Test Bar Size		Test Piece		Norm. (Hrs)		4	
HBW		143 - 143		Norm. Cooling Type		AIR	
Elg (%)		36		Norm. Location		AFG	
RA (%)		62					
Tensile Specimen Size (in)		.495					
Tensile (ksi)		71		MILL		WARREN STEEL	
Yield (ksi)		45.8		MHC		10311	
Gauge Length		2					

Product compliant with NACE MR0175, latest edition and dimensions to ANSI B16.5  
 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.: 168393  
 Certification Date: 7/10/2009

*Nicholas Tepovich*  
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 Nicholas Tepovich - Metallurgic Lab Manager