

# Material Test Report

Heat Code: AVN

An Ameri-Forge Group Company  
 13770 Industrial Rd., Houston, TX 77015  
 Sales: (713) 868-4421 Fax: (713) 455-8366

ISO 9001:2000 Certified

PO: 5177	Sales Order: 66675	Line: 6
Item Code: 0302600100-0020F	Qty Shipped: 19	
Item Desc: FLG 06.00 0300 SO RF	A105	NHT COFFR
Supplier: MACSTEEL	Supplier Heat: 4M65525	
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	0.20				Cz	Chromium	0.13		7440-47-3
Mn	1.06				Mo	Molybdenum	0.020		
P	0.012				V	Vanadium	0.005		
S	0.008				Cb	Columbium	0.002		
Si	0.18				C.E.		0.426		
Cu	0.19				CuNiCrMo		0.42		
Ni	0.08				CrMo		0.15		

Mechanical		Other	
Test Lab	AFG	Country of Origin	USA (US)
Test Bar Size	SACRIFICIAL PIECE	RF	Y
HBW	167-167		
Rlg (%)	30.0		
RA (%)	63.0		
Tensile Specimen Size (in)	0.495		
Tensile (ksi)	82.4		
Yield (ksi)	48.3		
Gauge Length	2.00		

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  
 the 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.: 150509  
 Certification Date: 10/2/2008

*Nicholas Tepovich*

Nicholas Tepovich - Metallurgical Lab Manager

This report is issued in compliance with the requirements of EN10204 3.1 / ISO 10474 3.1.5

