

# Material Test Report

**COFFER**  
an **AFGlobal** Company

Heat Code: YNO

Coffer Corp.  
An AFGlobal Company

ISO 9001:2008 Certified

13770 Industrial Rd. Houston, TX 77015  
Sales: (713) 868-4421 Fax: (713) 455-8366

PLESA STEEL INC. 11811 NORTH FRWY STE 500 Houston, TX 77060	00012015	PO: 261	Sales Order: 138418	Line: 18
		Item Code: 0601200102-0021F	Qty Shipped: 50	
		Item Desc: FLG 02.00 0600 WN RF XH A105	NRM COFFER	
		Supplier: CMC-TEXAS	Supplier Heat: 3048271	
Spec: ASTM A105/A105N-(13)/ASME SA 105/SA 105N-(13)Section II Part A - Normalized				

Element	(%wt)	Ladle	Product	EPCRA	CAS#	Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.19				Cr	Chromium	0.08		✓	7440-47-3
Mn	Manganese	1.00		✓	7439-96-5	Mo	Molybdenum	0.033			
P	Phosphorous	0.009				V	Vanadium	0.002			
S	Sulphur	0.011				Cb	Columbium	0.002			
Si	Silicon	0.21				C.E.		0.40			
Cu	Copper	0.26		✓	7440-50-8	CuNiCrMoV		0.455			
Ni	Nickel	0.08		✓	7440-02-0	CrMo		0.11			

Mechanical Testing					Heat Treat		
Test Lab	AFG		Norm. Temp. (F)		1675		
Test Bar Size	sacrificial Piece		Norm. (Hrs)		4		
HBW	159 - 159		Norm. Cooling Type		AIR		
Elg (%)	34		Norm. Location		AFG		
RA (%)	66						
Tensile Specimen Size (in)	.490		Other				
Tensile (ksi)	81.2		EP		Y		
Yield (ksi)	51.2		Fully Killed		Y		
Gauge Length	2						

Product compliant with NACE MR0175 / ISO 15156 and NACE MR0103 latest edition and flange dimensions to ASME E16.5 - 2013.

\* No Weld repair performed.  
 \* Ladle Chemical Analysis results are reported from the raw material suppliers MTR.  
 \* Forgings are capable of passing hydrostatic test compatible with the appropriate rating.  
 \* Elongation taken from a round specimen.  
 \* Yield strength was determined using the .2% offset method.  
 \* 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.  
 \* When reported on MTR: Tensile Testing Per ASTM E8; Brinell Hardness Per ASTM E10; Charpy Testing Per ASTM E23  
 \* AF Global manufactures materials according to a certified Quality Management System conforming to ISO 9001:2008 and PED 97/23/EC, Annex 1, Section 4.3

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The recording of false, fictitious, or fraudulent statement or entries on this document may be punishable as a felony under federal statute.

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.: 1131930  
 Certification Date: 9/3/2014  
 Issued By: Juan Diaz

  
 Rina Sane - Metallurgical Lab Manager

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