

Material Test Report

COFFER®
an **AFGlobal** Company

Heat Code: WDP

Coffer Corp.

An AFGlobal Company

13770 Industrial Rd. Houston, TX 77015

ISO 9001:2008 Certified

Sales: (713) 868-4421 Fax: (713) 455-8366

PLESA STEEL INC. 11811 NORTH FRWY STE 500 Houston, TX 77060	00012015	PO: 282	Sales Order: 140295	Line: 12
		Item Code: 0601912180-0021F	Qty Shipped: 3	
		Item Desc: FLG 12.00 0600 WN RF 80 A105 NRM COFFR		
		Supplier: WARREN STEEL HOLDINGS Supplier Heat: 14545		
Spec: ASTM A105/A105N-(14)/ASME SA 105/SA 105N-(14)Section II Part A - Normalized				

Element	(%wt)	Ladle	Product	EPCRA	CAS#	Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.21				Cr	Chromium	0.10		✓	7440-47-3
Mn	Manganese	0.95		✓	7439-96-5	Mo	Molybdenum	0.04			
P	Phosphorous	0.009				V	Vanadium	0.01			
S	Sulphur	0.002				Cb	Columbium	0.0036			
Si	Silicon	0.18				C.E.		0.42			
Cu	Copper	0.19		✓	7440-50-8	CuNiCrMoV		0.42			
Ni	Nickel	0.08		✓	7440-02-0	CrMo		0.14			

Mechanical Testing				Heat Treat			
Test Lab	AFG			Norm. Temp. (F)	1675		
Test Bar Size	Sacrificial Piece			Norm. (Hrs)	4		
HBW	149 - 149			Norm. Cooling Type	AIR		
Elg (%)	32.0			Norm. Location	AFG		
RA (%)	64.0			Other			
Tensile Specimen Size (in)	.502			DESC:	PO#3062		
Tensile (ksi)	76.2						
Yield (ksi)	48.4						
Gauge Length	2						

Product compliant with NACE MR0175 / ISO 15156 and NACE MR0103 latest edition and flange dimensions to ASME B16.3 - 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

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.: 1164112
 Certification Date: 12/16/2014
 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