

Material Test Report

COFFER*
an **AFGlobal** Company

Heat Code: ZCO

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.	00012015	PO: 307	Sales Order: 142394	Line: 8
11811 NORTH FRWY STE 500		Item Code: 0301400101-0020F	Qty Shipped: 40	
Houston, TX 77060		Item Desc: FLG 04.00 0300 WN RF STD A105 NHT COFFR		
		Supplier: CMC	Supplier Heat: 3050466	
Spec: ASTM A105/A105M-(13)/ASME SA 105/SA 105M-(13) Section II Part A				

Element	(%wt)	Ladle	Product	EPCRA	CAS#	Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.20				Cr	Chromium	0.10		✓	7440-47-3
Mn	Manganese	0.99		✓	7439-96-5	Mo	Molybdenum	0.02			
P	Phosphorous	0.012				V	Vanadium	0.001			
S	Sulphur	0.006				Cb	Columbium	0.001			
Si	Silicon	0.23				C.E.		0.41			
Cu	Copper	0.24		✓	7440-50-8	CuNiCrMoV		0.430			
Ni	Nickel	0.07		✓	7440-02-0	CrMo		0.119			

Mechanical Testing				Other	
Test Bar Size		SACRIFICIAL PIECE		EF	Y
HBW		163 - 170		Fully Killed	Y
Elg (%)		30			
RA (%)		59			
Tensile Specimen Size (in)		.494			
Tensile (ksi)		80.9			
Yield (ksi)		47.1			
Gauge Length		2			

Product compliant with NACE MR0175 / ISO 15156 latest edition and flange dimensions to ASME B16.5 - 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

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.: 1164138
 Certification Date: 12/16/2014
 Issued By: Juan Diaz


 Rina Sane - Metallurgical Lab Manager