

Material Test Report

Heat Code: 4501280
 ISO 9001:2008 Certified
 PO: 441
 Item Code: 0302600100-P021F
 Item Desc: FLG 06.00 0300 SO RF A105 NRM COFFER
 Supplier: MF RINGS
 Supplier Heat: 4501280

Coffer Corp.
 An AFGlobal Company
 13770 Industrial Rd. Houston, TX 77015
 Sales: (713) 868-4421 Fax: (713) 455-8366

PLESA STEEL INC. 00012015
 5100 WESTHEIMER RD STE 200
 Houston, TX 77056
 Sales Order: 155907
 Qty Shipped: 10
 Line: 4
 Spec: ASTM A105/A105N-(14)/ASME SA 105/SA 105N-(15) Section II Part A - Normalized

Element	(%wt)	Ladle	Product	EPCRA	CAS#	Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.21				Mo	Molybdenum	0.003			
Mn	Manganese	1.20	✓	7439-96-5		V	Vanadium	0.00			
P	Phosphorous	0.016				Cb	Columbium	0.0000			
S	Sulphur	0.005				B	Boron	0.0000			
Si	Silicon	0.22				C.E.		0.41			
Cu	Copper	0.01	✓	7440-50-8		CuNiCrMoV		0.035			
Ni	Nickel	0.01	✓	7440-02-0		CrMo		0.02			
Cr	Chromium	0.02	✓	7440-47-3							

Mechanical Testing		Heat Treat	
Test Lab	SUPPLIER	Norm. Temp. (F)	1652
Test Bar Size	SACRIFICIAL PIECE	Norm. (Hrs)	3
HBW	153 - 156	Norm. Cooling Type	AIR
Elg (%)	31		
RA (%)	64.8	Other	Y
Tensile Specimen Size (in)	.500		Y
Tensile (ksi)	74.3		
Yield (ksi)	49		
Gauge Length (in)	2		

Product compliant with NACE MR0175/ISO 15156-2:2009 Annex A (A.2.1.1.2, A2.1.1.3).
 Product compliant with NACE MR0103-2012, Section 2.1.2 and 2.1.4.

- * No Weld repair performed.
- * Ladle Chemical Analysis results are reported from the raw material suppliers MTR.
- * Tensile taken from a round specimen. Measurement of elongation after fracture.
- * Yield strength was determined using the .2% offset method, unless otherwise specified.
- * 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 2014/68/EU, Annex 1, Section 4.3

Unless otherwise noted on PO, Dimensions of all standard pipe flanges and flange fittings (NPS 1/2 to NPS 24) per ASME B16.5-2013, large diameter steel flanges (NPS 26 to 60) per ASME B16.47-2011, Orifice flanges per ASME B16.36-2015, Steel pipeline flanges (NPS 1/2 to 60) per MSS SP-44.

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.: 1260045
 Certification Date: 10/7/2016
 Issued By: John Saucedo
 This report is issued in compliance with the requirements of EN10204 3.1 / ISO 10474 3.1.b


 Rina Sane - Metallurgical Lab Manager