

# Material Test Report

Heat Code: YAD

Coffer Corp.

An AFGlobal Company

13770 Industrial Rd. Houston, TX 77015

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

ISO 9001:2008 Certified

PLESA STEEL INC. 00012015 11811 NORTH FRWY STE 500 Houston, TX 77060	PO: 261	Sales Order: 138418	Line: 3
	Item Code: 0152910100-0020F		Qty Shipped: 50
	Item Desc: FLG 10.00 0150 SO RF A105 NHT COFFR		
	Supplier: ASW STEEL		Supplier Heat: 76959

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	0.08		✓	7440-47-3
Mn	Manganese	1.10		✓	7439-96-5	Mo	Molybdenum	0.02			
P	Phosphorous	0.007				V	Vanadium	0.002			
S	Sulphur	0.001				Cb	Columbium	0.006			
Si	Silicon	0.24				C.E.		0.42			
Cu	Copper	0.24		✓	7440-50-8	CuNiCrMoV		0.409			
Ni	Nickel	0.07		✓	7440-02-0	CrMo		0.097			

Mechanical Testing				Other	
Test Lab		AFG		EF	Y
Test Bar Size		Sacrificial Piece		Fully Killed	Y
HBW		187 - 187			
Elg (%)		24			
RA (%)		47			
Tensile Specimen Size (in)		.247			
Tensile (ksi)		84.3			
Yield (ksi)		48.4			
Gauge Length		1			

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.: 1123956  
 Certification Date: 8/6/2014  
 Issued By: Juan Diaz



Rina Sane - Metallurgical Lab Manager