COFFER®
an AFGlobal Company

Material Test Report

Heat Code: ACF

ISO 9001:2008 Certified

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

PLESA STEEL INC. 00012015	PO: 392	Sales Order: 148435	Line: 1
5100 WESTHEIMER RD STE 200	Item Code: 0603800100-0021F	Qty Shipped: 5	
Houston, TX 77056	Item Desc: FLG 08.00 0600 BL RF A105 NRM COFFR		
	Supplier: CMC	Supplier Heat: 3053352	

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	0.19				Cr	Chromium	0.11		✓	7440-47-3
Mn	Manganese	1.04		✓	7439-96-5	Mo	Molybdenum	0.028			
P	Phosphorous	0.014				V	Vanadium	0.00			
S	Sulphur	0.018				Cb	Columbium	0.002			
Si	Silicon	0.21				C.E.		0.41			
Cu	Copper	0.22		✓	7440-50-8	CuNiCrMoV		0.430			
Ni	Nickel	0.07		✓	7440-02-0	CrMo		0.14			

Mechanical Testing	
Test Lab	AFG
Test Bar Size	Sacrificial Piece
HBW	156 - 156
Elg (%)	34
RA (%)	61
Tensile Specimen Size (in)	.494
Tensile (ksi)	80.3
Yield (ksi)	49.7
Gauge Length	2

Heat Treat	
Norm. Temp. (F)	1675
Norm. (Hrs)	4
Norm. Cooling Type	air
Norm. Location	afg

Other	
EF	Y
Fully Killed	Y

Product compliant with NACE MR0175 / ISO 15156 and NACE MR0103 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.
* Tensile taken from a round specimen. Measurement of elongation after fracture.
* 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.: 1223431
Certification Date: 9/15/2015
Issued By: John Sauceda

Rina Sane - Metallurgical Lab Manager

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