

Material Test Report

Heat Code: JZF

An Ameri-Forge Group Company 13770 Industrial Rd. Houston, TX 77015

ISO 9001:2008 Certified

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

PLESA ANAHUAC Y CIAS SA DE CV AV. VALLE DE LAS

ALAMEDAS 66-0

54940 TULTITLAN, EDO, MEX

PO: 11304

Item Code: 0151800101-0020F

Sales Order: 100764

Line: 5

Qty Shipped: 100

Item Desc: FLG 08.00 0150 WN RF STD

Supplier: CMC

Supplier Heat: 3025263

Spec: ASTM A105/A105M-(10)/ASME SA 105/SA 105M-(08a) Section II Part A

| C Carbon 0.19 Cr Chromium 0.07 ✓ 7440-47 Mn Manganese 1.01 ✓ 7439-96-5 Mo Molybdenum 0.02 P Phosphorous 0.009 V Vanadium 0.004 S Sulpbur 0.012 Cb Columbium 0.001 Si Silicon 0.24 C.E. 0.40 Cu Copper 0.26 ✓ 7440-50-8 CunicrMo 0.420 Ni Nickel 0.07 ✓ 7440-02-0 CrMo 0.090 | Elen | nent | (%wt) | Ladle | Product | EPCR | A CAS# | Element | (%wt) | Ladle | Product | EPCRA | CAS# |
|---|------|---------------|-------|-------|---------------------------------------|------|-----------|-----------|-------|-------|---|-------|----------|
| P Phosphorous 0.009 V Vanadium 0.004 S Sulphur 0.012 Cb Columbium 0.001 Si Silicon 0.24 C.E. 0.40 Cu Copper 0.26 ✓ 7440-50-8 CuNiCrMo 0.420 | Ç | Carbon | n | 0.19 | , , , , , , , , , , , , , , , , , , , | | | Cr Chrom | ium | 0.07 | Manifestration of the state of | √ 7 | 440-47-3 |
| 8 Sulphur 0.012 Cb Columbium 0.001 Si Silicon 0.24 C.E. 0.40 Cu Copper 0.26 ✓ 7440-50-8 CuNiCrNo 0.420 | Mn | n Manganese | | 1.01 | | ✓ | 7439-96-5 | Mo Molyb | denum | 0.02 | | | |
| S1 Silicon 0.24 C.E. 0.40 Cu Copper 0.26 ✓ 7440-50-8 CuNiCrMo 0.420 | P | P Phosphorous | | 0.009 | | | | V Vanad | 1 um | 0.004 | | | |
| Cu Copper 0.26 ✓ 7440-50-8 CuNiCrMo 0.420 | S | Sulphi | ur | 0.012 | | | | Cb Columb | bium | 0.001 | | | |
| | \$1 | Silico | on | 0.24 | | | | C.E. | | 0.40 | | | |
| Ni Nickel 0.07 √ 7440-02-0 CrMo 0.090 | Cu | Coppe | r | 0.26 | | ✓ | 7440-50-8 | CuNiCrMo | | 0.420 | | | |
| | Ni | Nicke | 1, | 0.07 | | ✓ | 7440-02-0 | CrMo | | 0.090 | | | |
| | | | | | | | | | | | | | |

| Mechanical To | esting | • | Other | |
|----------------------------|-------------------|------|-------|-----------|
| Test Lab | AFG | WILL | | ÇMC-TEXAS |
| Test Bar Size | Sacrificial Piece | MHC | | 3025263 |
| HBW | 156 - 156 | | | |
| Elg (%) | 33.0 | | | |
| RA (%) | 58.0 | | | |
| Tensile Specimen Size (in) | .497 | : | | |
| Tensile (ksi) | 76.5 | | | |
| Yield (ksi) | 47.4 | | | |
| Gauge Length | 2 | : | | |
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No Weld repair performed. Chemical Analysis results shown are actual. Forgings are capable of passing hydrostatic test compatible with the appropriate rating. Elongation taken from a round specimen. 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. Yield strength was determined using the 0.2% offset method. No weld repair performed on this product.

Product compliant with NACE MR0175, latest edition and dimensions to ASME B16.5-2009

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.:

219901

Certification Date:

10/4/2011

Nicholas Tepovich - Metallurgic Lab Manager

Violadas Tapare

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