

# CERTIFICATE OF INSPECTION & TEST

ORIGINAL



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(EN 10204 3.1)

Certified to ISO9001:2008, ISO14001:2004, PED97/23/EC by LRQA

Certified API Spec Q1 and API Spec 6A (Licence No : 6A-1284)



|  |             |                    |                      |                      |               |   |       |                     |         |            |       |                               |     |                           |                   |
|--|-------------|--------------------|----------------------|----------------------|---------------|---|-------|---------------------|---------|------------|-------|-------------------------------|-----|---------------------------|-------------------|
| Customer : PLESA ANAHUAC Y CIAS.,S.A DE C.V.                           |             |                    |                      | Contract No. : 15982 |               |   |       | Report No : MSH8188 |         |            |       | Date: SEP.09.2013             |     |                           |                   |
| Spec. For Material : ASTM/ASME A/SA105N-11(NACE MR0175/ISO 15156-2009) |             |                    |                      |                      |               |   |       |                     |         |            |       | Heat Treatment                |     |                           |                   |
| Chemical Composition (%)   |             | C                  | Si                   | Mn                   | P             | S   | Ni    | Cr                  | Mo      | Cu         | V     | 910°C NORMALIZED & AC         |     |                           |                   |
| Heat No./Batch no.   | MAX         | 0.350              | 0.350                | 1.050                | 0.035         | 0.040                                       | 0.400 | 0.300               | 0.120   | 0.400      | 0.080 |                               |     |                           |                   |
|  | MIN         |                    | 0.100                | 0.600                |               |   |       |                     |         |            |       |                               |     |                           |                   |
| 05071N   |             | 0.201              | 0.296                | 1.050                | 0.014         | 0.006                                       | 0.013 | 0.031               | 0.002   | 0.007      | 0.005 | Dimensional Inspection        |     |                           |                   |
| Tension Test   |             |                    |                      |                      |               | Charpy Impact Test (10x10 mm Specimen Size) |       |                     |         |            |       | Hardness Test (HB)            |     | Bending Test 90:120(180°) |                   |
| Size of Specimen(mm)   |             | Yield Strength MPa | Tensile Strength MPa | Elongation %         | Red of Area % | Individual                                  |       | Average             |         | Notch Type |       | Temp                          | 187 | 90:120(180°)              | ANSI B16.5 - 2009 |
| Dia  | Gage Length |                    |                      |                      |               | min   | min   | Test Result         |         | Average    |       |                               |     |                           |                   |
| 12.5   | 50          | MAX                |                      |                      |               | ①   | ②     | ③                   | Average |            |       | 149, 155                      |     | GOOD                      |                   |
|  |             | MIN                | 250.000              | 485.000              | 22.000        | 30.000                                      |       |                     |         |            |       |                               |     |                           |                   |
| 12.5   | 50          |                    | 341.000              | 541.000              | 35.000        | 64.000                                      |       |                     |         |            |       |                               |     | Ultrasonic Examination    |                   |
| ITEM / SIZE  |             | Q'TY               |                      | ITEM / SIZE          |               | Q'TY  |       | ITEM / SIZE         |         | Q'TY       |       | N/A                           |     |                           |                   |
| 150LBS WNRF STD 10"  |             | 14                 |                      | BLANK                |               |   |       | BLANK               |         |            |       | Magnetic Particle Examination |     |                           |                   |
| BLANK  |             |                    |                      |                      |               |   |       |                     |         |            |       | N/A                           |     |                           |                   |
|  |             |                    |                      |                      |               |   |       |                     |         |            |       | Remarks :                     |     |                           |                   |
|  |             |                    |                      |                      |               |   |       |                     |         |            |       | **CE = 0.38 (LONG FORMULAR)   |     |                           |                   |

NOTE :  
 1MPa = 145.037 psi  
 1MPa = 0.145037 ksi  
 1psi = 0.006895 MPa  
 1ksi = 6.89476 MPa

W.C:Water Cool O.C:Oil Cool  
 A.C:Air Cool N.A:Non Action  
 N:Normalized A:Annealed  
 Q.T:Quenched and Tempered  
 N.T:Normalized and Tempered

We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.

*[Signature]*



Witnessed by / H. J. LEE Manager of Q.A Dept. / S. H. LEE