



Management  
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ISO 9001:2015  
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## Certificado de Calidad

IT020305 rev.01

N° NN-20976

Industrias Nelson  
Av. Rivadavia 12140 – Ciudadela – Buenos Aires  
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T.E. 0800-333-4237

| Descripción                         | Código    | Certificado |
|-------------------------------------|-----------|-------------|
| CONECTOR RECTO 1/4" OD X 1/8" NPT H | 66S0402   | AA-618      |
| Componentes                         | Material  | Certificado |
| BARRA HEXAGONAL 14.2mm              | AISI 316I | AA-618      |

### Protocolo de ensayo :

| Tipo       |   | Presión de trabajo | Estado | Presión de prueba | Estado | Tiempo      |
|------------|---|--------------------|--------|-------------------|--------|-------------|
| Hidráulico | 1 | 5.000 PSI          | Ok     | 6.000 PSI         | Ok     | 60 segundos |

### Dimensional:

Se controlaron las roscas con el calibre correspondientes dando como resultado satisfactorio. Se controlaron también la rugosidad superficial y las dimensiones generales dando un resultado satisfactorio.

### Visual/Funcional:

Se controlaron la porosidad, rebabas, ensamblado, terminación superficial y su función mecánica dando como resultado: satisfactorio

### Observaciones :

Se certifica que las piezas descritas fueron construidas de acuerdo a lo indicado en nuestros estándares internos, que se cumplen de acuerdo a un sistema de Gestión de Calidad certificado ISO 9001:2015, manteniendo en archivo los certificados correspondientes a cada material.

Firma: **INDUSTRIAS NELSON S.A.**



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## INSPECTION CERTIFICATE



Certificate Type : EN 10204/3.1

|                     |                     |              |              |                 |            |
|---------------------|---------------------|--------------|--------------|-----------------|------------|
| Our Sales Order No. | OA-SBD-FR-1213-0042 | Invoice No.  | EXP/1213-218 | Certificate No. | 2011-07434 |
| Customer Order No.  | 5005                | Invoice Date | 08/10/12     | Date            | 08/10/12   |

Customer JORVICAL ACEROS SA

Lanus Oeste

Calamarca 1527

Buenos Aires, 1872, Argentina

Inspector's Mark :

PT

Trade Mark :

AS

| Material Details      |                  |                |             |                 |
|-----------------------|------------------|----------------|-------------|-----------------|
| Stainless Steel Grade | 316 / 316L       | Shape          | Hexagon Bar | Size            |
| Steel Grade           | 316 / 316L       | Shape          | Hexagon Bar | Size            |
| Heat No.              | S-8139           | Tolerance      | h 11        | Length of Bars  |
| Net Weight            | 1.21 MT          | Number of Bars | 38          | Melting Process |
| Bundle No's           | AV-5623, AV-5624 |                |             | EF/AOD/EMS      |
| Requirements          | ASTM A 276:2010  |                |             |                 |

### CHEMICAL ANALYSIS %

|      | C     | Si   | Mn   | P     | S     | Cr    | Mo   | Ni    |  |  |  |  |  |  |  |  |  |  |
|------|-------|------|------|-------|-------|-------|------|-------|--|--|--|--|--|--|--|--|--|--|
| Min. |       |      |      |       |       | 16    | 2    | 10    |  |  |  |  |  |  |  |  |  |  |
| Max  | 0.03  | 1    | 2    | 0.045 | 0.03  | 18    | 3    | 14    |  |  |  |  |  |  |  |  |  |  |
| Melt | 0.022 | 0.33 | 1.77 | 0.037 | 0.020 | 16.72 | 2.08 | 10.28 |  |  |  |  |  |  |  |  |  |  |

### MECHANICAL PROPERTIES

|         |  | YS/ Rp 0.2%     |  | UTS             |  | % Elongation    |  | % Reduction Area |  | Hardness (BHN)  |  | Charpy Impact V Notch (Longitudinal) (Joules) |  |
|---------|--|-----------------|--|-----------------|--|-----------------|--|------------------|--|-----------------|--|-----------------------------------------------|--|
|         |  | ASTM A 370:2011 |  | ASTM A 370:2011 |  | ASTM A 370:2011 |  | ASTM A 370:2011  |  | ASTM A 370:2011 |  |                                               |  |
| Results |  | 522.00          |  | 638.00          |  | 39.42           |  | 62.32            |  | 228             |  |                                               |  |
| Max.    |  |                 |  |                 |  |                 |  |                  |  |                 |  |                                               |  |
| Min.    |  |                 |  |                 |  |                 |  |                  |  |                 |  |                                               |  |
|         |  |                 |  |                 |  |                 |  |                  |  |                 |  | Temp. Deg.                                    |  |
|         |  |                 |  |                 |  |                 |  |                  |  |                 |  | 1                                             |  |
|         |  |                 |  |                 |  |                 |  |                  |  |                 |  | 2                                             |  |
|         |  |                 |  |                 |  |                 |  |                  |  |                 |  | 3                                             |  |
|         |  |                 |  |                 |  |                 |  |                  |  |                 |  | Avg.                                          |  |
|         |  |                 |  |                 |  |                 |  |                  |  |                 |  | RESULT                                        |  |

### Heat Treatment :

Solution Annealed @ 1050C Soaking for 1hr 30mins & Water Quenched.

Heat Treatment Traceability No(s) : HT-084 - dated 07/08/12.

### Remarks :

- \* Country Of Origin Of Goods - India
- \* Free from Radioactivity - verified through Gamma Ray Spectrometer
- \* No Mercury Contamination
- \* Micro & Macro Test - Satisfactory
- \* No welding has been performed on the material
- \* Heat Treatment furnace calibrated as per API 6A:2010 / ISO:2009, Annexure M
- \* Specimen Size for UTS - 12.50 mm / 0.50 inch
- \* Visual & Dimensional Inspection - OK
- \* Material Identification tested through X-ray based portable Spectrometer
- \* Ultrasonic Test : OK
- \* IGC Test (as per ASTM A-262:2010) : OK.

QA Head / NDT Inspector

We confirm that the material is manufactured & supplied in accordance to the Purchase Order

AMBICA STEELS LIMITED

#51/2, Site 4, UPSIDC Indl. Area, Sahibabad, 201 010 District Ghaziabad (U.P.) INDIA

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AA-618