



**Acería Ramos Arizpe**  
 CARRETERA MONCLOVA KM 4 NUMERO 2125, TRA  
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EXCELENCIA EN CALIDAD

**CERTIFICADO DE CALIDAD / CERTIFICATE OF TEST AND ANALYSIS**

|                                   |                  |
|-----------------------------------|------------------|
| No. Certificado / Certificate No: | 43709 - 20156443 |
| Fecha / Date:                     | 02/05/2015       |

Hecho en México / Made in Mexico

| DATOS DEL CLIENTE / SOLD TO  |                                       | CLIENTE CONSIGNADO / SHIP TO                              | DATOS DEL EMBARQUE / SHIPPING INFORMATION |
|--|---------------------------------------|---|---|
| Cliente / Customer: ACEROS TEPOTZOTLAN SA DE CV                                  |                                       | Cliente / Customer: ACEROS TEPOTZOTLAN SA DE CV           | Núm. Viaje / Travel No: 43709             |
| Dirección / Address: CARR MEXICO QUERETARO KM 37.5 SN PARQUE INDUSTRIAL CUAMATLA |                                       | Dirección / Address: CARRETERA MEXICO-QUERETARO KM 37.5 - | Núm. Factura / Invoice No: FQ26572        |
| Ciudad / City: CUAUTITLAN IZCALLI  | Estado / State: EDO. DE MEXICO        | Ciudad / City: CUAUTITLAN IZCALLI                         | Estado / State: EDO. DE MEXICO            |
| Teléfono / Phone: 58727600   | Pais / Country: MEXICO C.P./ZIP 54730 |   | Pedido / Customer Order No: 20156443      |
| Correo Electrónico / eMail: mimartinez@deacero.com                               |                                       |   | Núm. Plan / Shipping Plan: 47130          |
|  |                                       |   | Fecha Embarque / Date: 02/05/2015         |
|  |                                       |   | Orden de Compra / Purchase Order: 8083    |

**COMPOSICIÓN QUÍMICA / CHEMICAL COMPOSITION (% PESO / WEIGHT)**

| Colada / Heat | Secuencia / Sequence | Clave / Code | Producto / Description of Goods          | % C  | % Mn | % Si | % P   | % S   | % Cu | % Cr | % Ni | % Mo  | % Sn  | % Ti  | % V   | PPM Nb | PPM N | CE   |
|---------------|----------------------|--------------|--|------|------|------|-------|-------|------|------|------|-------|-------|-------|-------|--------|-------|------|
|               |                      |              |  | AVG  | AVG  | AVG  | AVG   | AVG   | AVG  | AVG  | AVG  | AVG   | AVG   | AVG   | AVG   | AVG    | AVG   | AVG  |
| 6855          | 19580                | 10498        | CANAL 10" x 15.3 A36/A572-50 12.20m 4.0T | 0.20 | 0.90 | 0.16 | 0.007 | 0.006 | 0.09 | 0.07 | 0.04 | 0.010 | 0.007 | 0.008 | 0.012 | 150    | 0     | 0.36 |
| 7194          | 19579                | 10498        | CANAL 10" x 15.3 A36/A572-50 12.20m 4.0T | 0.20 | 0.95 | 0.20 | 0.008 | 0.005 | 0.09 | 0.03 | 0.05 | 0.014 | 0.007 | 0.009 | 0.012 | 150    | 0     | 0.36 |
| 7200          | 19578                | 10498        | CANAL 10" x 15.3 A36/A572-50 12.20m 4.0T | 0.20 | 0.95 | 0.25 | 0.009 | 0.008 | 0.10 | 0.04 | 0.06 | 0.014 | 0.007 | 0.012 | 0.015 | 150    | 0     | 0.36 |

**PROPIEDADES MECÁNICAS / MECHANICAL PROPERTIES**

| Colada / Heat | Secuencia / Sequence | Clave / Code | Producto / Description of Goods          | Calibre / Diameter | Cantidad / Bundle | RT kg/mm <sup>2</sup> | TS PSI  | % Elong / Elong | LF kg/mm <sup>2</sup> | YS PSI  | P. Doblez / Bend Test |
|---------------|----------------------|--------------|--|--------------------|-------------------|-----------------------|---------|-----------------|-----------------------|---------|-----------------------|
|               |                      |              |  |                    |                   | AVG                   | AVG     | AVG             | AVG                   | AVG     |                       |
| 6855          | 19580                | 10498        | CANAL 10" x 15.3 A36/A572-50 12.20m 4.0T | 10" x 15.3         | 1                 | 54.3                  | 77343.4 | 34.3            | 38.7                  | 55147.7 | Cumple / Successfully |
| 7194          | 19579                | 10498        | CANAL 10" x 15.3 A36/A572-50 12.20m 4.0T | 10" x 15.3         | 6                 | 51.7                  | 73601.4 | 23.0            | 36.8                  | 52458.6 | Cumple / Successfully |
| 7200          | 19578                | 10498        | CANAL 10" x 15.3 A36/A572-50 12.20m 4.0T | 10" x 15.3         | 5                 | 54.4                  | 77400.3 | 23.1            | 39.8                  | 56684.3 | Cumple / Successfully |

Certificamos que este material ha sido producido, inspeccionado y probado de acuerdo a las normas de fabricación del acero aplicables a la ASTM A36-2008, A529-2005 (re aprobada el 2009), A572-2012 y A992-2011 y a las normas dimensionales NMX B252, ASTM A6/A6M-2012. La información de las propiedades químicas y mecánicas contenida en el presente certificado son valores promedio obtenidos de los registros internos de la compañía, cumpliendo con la norma antes mencionada. / We certify that this material has been produced, inspected and tested according to standards applicable steelmaking to ASTM A36-2008, A529-2005 (Reapproved 2009), A572-2012 y A992-2011, and the dimensional standards NMX B252, ASTM A6/A6M-2012. All information described in the certificate are average values that are based on internal company records in compliance with the above rule.



*[Handwritten Signature]*

FRANCISCO JAVIER VARGAS SOTO  
 Gerente de Aseguramiento de Calidad / Quality Assurance Manager