



**Acería Ramos Arizpe**  
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 TRA  
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**CERTIFICADO DE CALIDAD / CERTIFICATE OF TEST  
 AND ANALYSIS**

|                                   |                  |
|-----------------------------------|------------------|
| No. Certificado / Certificate No: | 56198 - 20263812 |
| Fecha / Date:                     | 29/10/2015       |

Hecho en México / Made in Mexico

| DATOS DEL CLIENTE / SOLD TO   |                                       | CLIENTE CONSIGNADO / SHIP TO                                   |                      | DATOS DEL EMBARQUE / SHIPPING INFORMATION    |  |
|---|---------------------------------------|--|----------------------|--|--|
| Cliente / Customer: FORTACERO SA DE CV                                |                                       | Cliente / Customer: SUCURSAL MEXICO                            |                      | Núm. Viaje / Travel No: 56198                |  |
| Dirección / Address: BLVD CARLOS S G KM. 8.8 -                        |                                       | Dirección / Address: AV. CEYLAN # 1042 NTE. INDUSTRIAL VALLEJO |                      | Núm. Factura / Invoice No: FQ32322           |  |
| Ciudad / City: APODACA  | Estado / State: N.L.                  | Ciudad / City: CD. DE MEXICO                                   | Estado / State: D.F. | Pedido / Customer Order No: 20263812         |  |
| Teléfono / Phone: 818-156-5200  | País / Country: MEXICO C.P./ZIP 66600 |  |                      | Núm. Plan / Shipping Plan: 60490             |  |
| Correo Electrónico / eMail: rfores@fortacero.com, preys@fortacero.com |                                       |  |                      | Fecha Embarque / Date: 29/10/2015            |  |
|   |                                       |  |                      | Orden de Compra / Purchase Order: 4500129525 |  |

| 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  |
| 13357  | 5089                 | 79678        | REDONDO S 3/8" A-36 6 10m 1.5T                 | 0.15 | 0.66 | 0.20 | 0.007 | 0.016 | 0.25 | 0.06 | 0.11 | 0.029 | 0.014 | 0.000 | 0.004 | 18     | 0     | 0.27 |
| 13365  | 5088                 | 79678        | REDONDO S 3/8" A-36 6 10m 1.5T                 | 0.14 | 0.67 | 0.19 | 0.013 | 0.012 | 0.23 | 0.10 | 0.11 | 0.029 | 0.014 | 0.000 | 0.003 | 16     | 0     | 0.28 |
| 13366  | 5086                 | 79678        | REDONDO S 3/8" A-36 6 10m 1.5T                 | 0.15 | 0.67 | 0.22 | 0.013 | 0.017 | 0.24 | 0.09 | 0.10 | 0.026 | 0.013 | 0.000 | 0.006 | 12     | 0     | 0.28 |
| 13260  | 22224                | 60326        | ANGULO L 2" x 2" x 1/8" A36/A529-50 6 10m 2.0T | 0.21 | 0.77 | 0.19 | 0.006 | 0.003 | 0.18 | 0.06 | 0.06 | 0.011 | 0.008 | 0.001 | 0.006 | 22     | 0     | 0.35 |
| 13000  | 21975                | 63078        | VIGA R 6" x 16.0 A572-50/A992-50 6 10m 2.0T    | 0.07 | 1.04 | 0.18 | 0.008 | 0.004 | 0.08 | 0.05 | 0.03 | 0.008 | 0.004 | 0.010 | 0.005 | 300    | 81    | 0.00 |

| PROPIEDADES MECÁNICAS / MECHANICAL PROPERTIES |                      |              |  |                    |                   |        |         |           |        |         |                       |  |
|---|----------------------|--------------|--|--------------------|-------------------|--------|---------|-----------|--------|---------|-----------------------|--|
| Colada / Heat                                 | Secuencia / Sequence | Clave / Code | Producto / Description of Goods                | Calibre / Diameter | Cantidad / Bundle | RT     | TS      | % Elong / | LF     | YS      | P. Doble /            |  |
|   |                      |              |  |                    |                   | kg/mm² | PSI     | Elong /   | kg/mm² | PSI     | Bend Test             |  |
| 13357   | 5089                 | 79678        | REDONDO S 3/8" A-36 6 10m 1.5T                 | 3/8"               | 1                 | 42.6   | 60653.9 | 25.0      | 33.8   | 48133.3 | Cumple / Successfully |  |
| 13365   | 5088                 | 79678        | REDONDO S 3/8" A-36 6 10m 1.5T                 | 3/8"               | 3                 | 50.6   | 72036.3 | 28.1      | 36.4   | 51818.3 | Cumple / Successfully |  |
| 13366   | 5086                 | 79678        | REDONDO S 3/8" A-36 6 10m 1.5T                 | 3/8"               | 3                 | 43.5   | 62019.8 | 29.5      | 33.0   | 47023.5 | Cumple / Successfully |  |
| 13260   | 22224                | 60326        | ANGULO L 2" x 2" x 1/8" A36/A529-50 6 10m 2.0T | 2" x 2" x 1/8"     | 3                 | 51.1   | 72833.1 | 28.5      | 37.7   | 53710.7 | Cumple / Successfully |  |
| 13000   | 21975                | 63078        | VIGA R 6" x 16.0 A572-50/A992-50 6 10m 2.0T    | 6" x 16.0          | 3                 | 50.3   | 71837.9 | 32.3      | 39.6   | 56442.4 | 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. / 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.



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