



EN10204 3.1 - ISO 10474 3.1B

CERTIFICADO DE CALIDAD - MILL TEST CERTIFICATE

ORIGINAL

MT

TERNIUM MEXICO, S.A. DE C.V

R.F.C. TME-840710-TR4

Av. Universidad No. 992, Colonia Cuauhtémoc, San Nicolás de los Garza, N.L.

Código Postal 66450 Teléfono: +52(81)8329-8500

www.ternium.com

Fecha de emisión (Date of issue)

(DMA) 22/03/2017



N° (Document number)

TX1687978

0 0 0 0 0 1 5 1 7 9 0 8

| | | |
|---|---|---|
| Código cliente (Customer ID) H000232500 | Pedido No. (Sales Order) 0102323408,0102355838,0102384090 | Orden de compra (Purchase order) 24841.....25025,24579_ |
| Cliente (Customer) PLESA ANAHUAC Y CIAS. S.A. DE C.V. | Remisión (Delivery) 000001517908 | Medio de transporte (Means of transport) TREN |
| Dirección (Address) AV VALLE DE LAS ALAMEDAS # 66 O SAN FRANCISCO CHILPAN - TULTITLAN - MÉXICO - México | Piezas Totales (Total pieces) 9 | Punto de despacho (Delivery plant) Guerrero |
| Descripción de la mercadería (Goods description) ROLLO FRIO RECOCIDO TENSONIVELADO | | |

Datos Generales (General Data)

| Pieza (Piece) | Colada (Heat) | Peso (Weight) | | Espesor (Thickness) | | Ancho (Width) | |
|------------------|------------------|------------------|-------|------------------------|--------|------------------|-------|
| | | kg | lb | mm | in | mm | in |
| 1A179386GN100 | 1632972012 | 7600 | 16755 | 0.610 | 0.0240 | 915.00 | 36.02 |
| 2A405926GN100 | 1611228890 | 6085 | 13415 | 1.520 | 0.0598 | 1220.00 | 48.03 |
| 2A405926GN102 | 1611228890 | 7275 | 16039 | 1.520 | 0.0598 | 1220.00 | 48.03 |
| 3A590187GN101 | 1730341012 | 7625 | 16810 | 1.520 | 0.0598 | 915.00 | 36.02 |
| 3A590190GN100 | 1670217011 | 7415 | 16347 | 1.520 | 0.0598 | 915.00 | 36.02 |
| 3A590190GN101 | 1670217011 | 7590 | 16733 | 1.520 | 0.0598 | 915.00 | 36.02 |
| 3A596087GN100 | 1668528011 | 6240 | 13757 | 1.210 | 0.0476 | 1220.00 | 48.03 |
| 3A596087GN101 | 1668528011 | 6425 | 14165 | 1.210 | 0.0476 | 1220.00 | 48.03 |
| 3A596087GN102 | 1668528011 | 6630 | 14617 | 1.210 | 0.0476 | 1220.00 | 48.03 |

| Pieza (Piece) | Colada (Heat) | No. Parte (Part) | Descripción (Description) | Norma de Calidad / Grado / Subnorma (Quality Norm / Grade / Sub-Norm) |
|------------------|------------------|---------------------|-----------------------------------|--|
| 1A179386GN100 | 1632972012 | | ROLLO FRIO RECOCIDO TENSONIVELADO | TER/A 1008 CS TIPO B/GAB (V 2006 REV 1) |
| 2A405926GN100 | 1611228890 | | ROLLO FRIO RECOCIDO TENSONIVELADO | TER/A 1008 CS TIPO B/GAB (V 2006 REV 1) |
| 2A405926GN102 | 1611228890 | | ROLLO FRIO RECOCIDO TENSONIVELADO | TER/A 1008 CS TIPO B/GAB (V 2006 REV 1) |
| 3A590187GN101 | 1730341012 | | ROLLO FRIO RECOCIDO TENSONIVELADO | TER/A 1008 CS TIPO B/GAB (V 2006 REV 1) |
| 3A590190GN100 | 1670217011 | | ROLLO FRIO RECOCIDO TENSONIVELADO | TER/A 1008 CS TIPO B/GAB (V 2006 REV 1) |
| 3A590190GN101 | 1670217011 | | ROLLO FRIO RECOCIDO TENSONIVELADO | TER/A 1008 CS TIPO B/GAB (V 2006 REV 1) |
| 3A596087GN100 | 1668528011 | | ROLLO FRIO RECOCIDO TENSONIVELADO | SAE J403/1008 (V 2001 REV 1) |
| 3A596087GN101 | 1668528011 | | ROLLO FRIO RECOCIDO TENSONIVELADO | SAE J403/1008 (V 2001 REV 1) |
| 3A596087GN102 | 1668528011 | | ROLLO FRIO RECOCIDO TENSONIVELADO | SAE J403/1008 (V 2001 REV 1) |

1. RC (YP): Resistencia a la cedencia (Yield Point)

2. RT (TS): Resistencia a la tensión (Tension Strength)

3. TT (TT): Tratamiento Térmico (Thermal Treatment)

4. HRBW: Rockwell B Identador de WC

5. Nb (Niobio) = Cb (Columbio)

Certificamos que el material aquí descrito ha sido ensayado por personal autorizado independiente del área de manufactura con resultados satisfactorios en concordancia con la norma de producto arriba descrita. Ensayos de propiedades mecánicas bajo las normas ASTM E8, E18, E517, E646 y E23; ISO 6892, 10113 y 10275; JIS Z2241, Z2254, Z2253 y Z2245. Ensayos metalográficos bajo ASTM E45 y E112. Peso de capa UL bajo ASTM A90. Análisis químico de acero bajo ASTM E415 y E1019. Ensayos de pintura bajo ASTM D523, D5796, D2244, D3363, D4145, D5402 y D2794. Propiedades Magnéticas bajo ASTM A343. Rugosidad de acero bajo SAEJ911. Densidad de espuma de panel bajo ASTM D2126. We certify that the material described has been tested by authorized personal independent from the manufacturing department with satisfactory results in accordance with requirements of the above product specification. Mechanical properties test as ASTM E8, E18, E517, E646 and E23; ISO 6892, 10113 and 10275, JIS Z2241, Z2254, Z2253 and Z2245. Metallographic test as ASTM E45 and E112. UL coating weight as ASTM A90. Chemical analysis of steel as ASTM E415 and E1019. Painting tests as ASTM D523, D5796, D2244, D3363, D4145, D5402 and D2794. Magnetic properties as ASTM A343. Steel roughness as SAEJ911. Panel foam density as ASTM D2126.

Firma (Signature)

Ing. Antonio Mani
Ternium Labs



Propiedades mecánicas longitudinales (Longitudinal mechanical properties)

| Pieza (Piece) | Colada / Heat | Tensión (Steel Stress) | | |
|------------------|------------------|------------------------------|------------------------|------------------------|
| | | %Elongacion (%Elongation) | RC (YP) 1 MPA (KSI) | RT (TS) 2 MPA (KSI) |
| 1A179386GN100 | 1632972012 | 40 | 197 / (28.6) | 335 / (48.6) |
| 2A405926GN100 | 1611228890 | 42 | 221 / (32.0) | 334 / (48.4) |
| 2A405926GN102 | 1611228890 | 42 | 221 / (32.0) | 334 / (48.4) |
| 3A590187GN101 | 1730341012 | 44 | 168 / (24.4) | 285 / (41.4) |
| 3A590190GN100 | 1670217011 | 41 | 196 / (28.4) | 330 / (47.8) |
| 3A590190GN101 | 1670217011 | 41 | 196 / (28.4) | 330 / (47.8) |

Ensayos de Calidad del Acero (Steel Quality)

| Pieza (Piece) | Colada / Heat | Dureza (Hardness) |
|------------------|------------------|----------------------|
| | | (HRBW) 4 |
| 1A179386GN100 | 1632972012 | 41 |
| 2A405926GN100 | 1611228890 | 56 |
| 2A405926GN102 | 1611228890 | 56 |
| 3A590187GN101 | 1730341012 | 41 |
| 3A590190GN100 | 1670217011 | 51 |
| 3A590190GN101 | 1670217011 | 51 |

Calidad del Acero - Análisis Químico (%) (Steel Quality - Heat Analysis (%))

| Colada (Heat) | C | Mn | P | S | Si | Al | V | Ti | Cr | Ni | Mo | B | Cu | Cb |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| 1611228890 | 0.058 | 0.276 | 0.005 | 0.004 | 0.008 | 0.028 | 0.001 | 0.000 | 0.010 | 0.012 | 0.002 | 0.0003 | 0.030 | 0.000 |
| 1632972012 | 0.084 | 0.343 | 0.004 | 0.003 | 0.014 | 0.035 | 0.002 | 0.000 | 0.017 | 0.029 | 0.005 | 0.0001 | 0.008 | 0.001 |
| 1668528011 | 0.050 | 0.368 | 0.014 | 0.012 | 0.030 | 0.035 | 0.004 | 0.001 | 0.019 | 0.016 | 0.001 | | 0.029 | 0.002 |
| 1670217011 | 0.087 | 0.348 | 0.010 | 0.014 | 0.011 | 0.050 | 0.001 | 0.001 | 0.021 | 0.027 | 0.001 | 0.0002 | 0.040 | 0.002 |
| 1730341012 | 0.055 | 0.180 | 0.006 | 0.004 | 0.010 | 0.044 | 0.001 | 0.000 | 0.014 | 0.004 | 0.004 | 0.0000 | 0.008 | 0.001 |

1. RC (YP): Resistencia a la cedencia (Yield Point)

2. RT (TS): Resistencia a la tensión (Tension Strengh)

3. TT (TT): Tratamiento Termico (Termical Treatment)

4. HRBW: Rockwell B Identador de WC

5. Nb (Niobio) = Cb (Columbio)

Certificamos que el material aquí descrito ha sido ensayado por personal autorizado independiente del área de manufactura con resultados satisfactorios en concordancia con la norma de producto arriba descrita. Ensayos de propiedades mecánicas bajo las normas ASTM E8, E18, E517, E646 y E23; ISO 6892, 10113 y 10275; JIS Z2241, Z2254, Z2253 y Z2245. Ensayos metalográficos bajo ASTM E45 y E112. Peso de capa UL bajo ASTM A90. Análisis químico de acero bajo ASTM E415 y E1019. Ensayos de pintura bajo ASTM D523, D5796, D2244, D3363, D4145, D5402 y D2794. Propiedades Magnéticas bajo ASTM A343. Rugosidad de acero bajo SAEJ911. Densidad de espuma de panel bajo ASTM D2126. We certify that the material described has been tested by authorized personal independent from the manufacturing department with satisfactory results in accordance with requirements of the above product specification. Mechanical properties test as ASTM E8, E18, E517, E646 and E23; ISO 6892, 10113 and 10275, JIS Z2241, Z2254, Z2253 and Z2245. Metallographic test as ASTM E45 and E112. UL coating weight as ASTM A90. Chemical analysis of steel as ASTM E415 and E1019. Painting tests as ASTM D523, D5796, D2244, D3363, D4145, D5402 and D2794. Magnetic properties as ASTM A343. Steel roughness as SAEJ911. Panel foam density as ASTM D2126.

Firma (Signature)

Ing. Antonio Mani
 Ternium Labs