

MILL TEST CERTIFICATE
CERTIFICADO DE PRUEBAS EN FABRICA

Number / Número: **15034586**
Page / Página: **1 / 5**
Date / Día: **September 06, 2015**

| | | | | |
|--|---|--|--|--|
| Customer / Cliente: PLESA ANAHUAC Y CIAS. S.A. DE C.V. | | Customer's Order Item / Orden Cliente - Item: 21806 ITEM 1 | Customer's Reference / Ref. del Cliente: N/A | Manufacturer's Works Order N° / Confirmación de Venta: 236451/01 |
| Manufacturing Process / Proceso de Manufactura: SEAMLESS HOT ROLLED LAMINADO EN CALIENTE SIN COSTURA | | Product Type / Tipo de Producto: LINE PIPE SEAMLESS CONDUCCION SIN COSTURA | | Surface / Superficie: VARNISHED BARNIZADO |
| Standard or Specification / Normas o Especificaciones: API 5L ED45/DECEMBER 2012, ASTM A106/14, ASTM A53/12, ASME SA106/2013 | | | Steel Grade / Grado de acero: B/X42-L245/L290 PSL1 | Ends / Extremos: NORMAL BEVEL BISELADO NORMAL |
| Dimensions / Dimensiones: 16.000 X 0.5 INCH 406.4 X 12.7 MM | Schedule / Cédula: SCH 040 / W.C XS | Length / Longitud: 19.69 / 21.33 FT 6.00 / 6.50 MTS | Quantity / Cantidad: 5 Pcs/Pz 105.906 FT 32.280 MTS | Nominal Weight / Peso Nominal: 9067.620 LB 4113.000 KG 82.85 LB/FT 123.31 KG/M |

TENSILE TEST / ENSAYO DE TENSION

| Heat N° Colada N° | Sample N° Muestra N° | Specimen condition Condición de la probeta | | | | Specimen dimensions Dimensiones de la probeta | | Test temp. Temp. ensayo °C | Y.S. Eul 0.50 % Min: 290 Max: -- | U.T.S. Req. Min: 415 Max: -- | Y.S./U.T.S. Req. Max. -- | Elongation / Alargamiento | | |
|----------------------|-------------------------|---|----|--------------|-----|--|------------------------|----------------------------------|---|---------------------------------------|--------------------------------|---------------------------|------|------|
| | | Ls | Sc | Type Tipo | Ori | Size Tamaño mm | Area Sección mm2 | | | | | Lo | Min. | Obt. |
| | | | | | | | | | | | | | | |
| 78221 | 41518 | B | AM | Ss | L | 38.66 X 12.96 | 501,03 | RT | 350 | 514 | 0,68 | 50,8 | 29,6 | 43,0 |

| | | | |
|--|--|---|--|
| AM: As manufactured / Según proceso de fabricación | Ls: Location of sample / Ubicación de la muestra | Ori: Orientation / Orientación | Sc: Specimen condition / Condición de la probeta |
| B: Body / Cuerpo | Max: Maximum / Máximo | Req. Max: Required maximum / Máximo requerido | Ss: Strip specimen / Muestra rectangular |
| L: Longitudinal / Longitudinal | Min: Minimum / Mínimo | Req: Required / Requerido | U.T.S: Ultimate tensile strength / Resistencia |
| Lo: Initial length / Longitud inicial | Obt: Obtained / Obtenido | RT: Room temperature / Temperatura ambiente | Y.S: Yield strength / Fluencia |

CHEMICAL COMPOSITION / COMPOSICIÓN QUIMICA

| | | Composition % / Composición % | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-------|-------------------------------|-----|----|----|-----|--------|----|-----|----|-----|-----|-----|----|----|----|---------|----|----|--------|--------|--------|---|
| | | X 100 | | | | | X 1000 | | | | | | | | | | X 10000 | | | X 100 | | | |
| | | C | Mn | Si | Mo | Cr | P | S | V | Nb | Ni | Cu | Sn | Al | Ti | As | B | Ca | N | Col. 1 | Col. 2 | Col. 3 | |
| Heat N° Colada N° | Max | 28 | 120 | -- | 15 | 40 | 30 | 30 | 80 | -- | 400 | 400 | -- | -- | -- | -- | -- | -- | -- | 15 | 100 | 6 | |
| | Min | -- | 29 | 10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Sample N° Muestra N° | Max | 28 | 120 | -- | 15 | 40 | 30 | 30 | 80 | -- | 400 | 400 | -- | -- | -- | -- | -- | -- | -- | 15 | 100 | 6 | |
| | Min | -- | 29 | 10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 78221 | 00001 | H | 19 | 88 | 19 | 3.9 | 6 | 7 | 4.3 | 0 | 0 | 60 | 109 | 9 | 19 | 0 | 4 | 0 | 12 | 63 | 0 | 26.8 | 0 |
| 78221 | 41518 | P | 20 | 87 | 18 | 4.2 | 7 | 6 | 4.7 | 0 | 0 | 50 | 107 | 8 | 22 | 0 | 4 | 0 | 15 | 62 | 0 | 26.9 | 0 |

This certificate is issued by a computerized system and it is valid with electronic signature. On the original certificate the trade-mark green colored "Tenaris" is stamped. In case the owner of the original certificate would release a copy of it, he must attest its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use. Any alteration and/or falsification will be subjected to the law.

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| | | | | | | Nominal Weight / Peso Nominal: 82.85 LB/FT 123.31 KG/M | |

CHEMICAL COMPOSITION / COMPOSICIÓN QUÍMICA

| | | Composition % / Composición % | | | | | | | | | | | | | | | | | | | | |
|------------------|--------------------|-------------------------------|-----|----|-----|----|--------|-----|----|----|-----|-----|----|----|----|----|---------|----|----|--------|--------|--------|
| | | X 100 | | | | | X 1000 | | | | | | | | | | X 10000 | | | X 100 | | |
| | | C | Mn | Si | Mo | Cr | P | S | V | Nb | Ni | Cu | Sn | Al | Ti | As | B | Ca | N | Col. 1 | Col. 2 | Col. 3 |
| H | Max | 28 | 120 | -- | 15 | 40 | 30 | 30 | 80 | -- | 400 | 400 | -- | -- | -- | -- | -- | -- | -- | 15 | 100 | 6 |
| | Min | -- | 29 | 10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| P | Max | 28 | 120 | -- | 15 | 40 | 30 | 30 | 80 | -- | 400 | 400 | -- | -- | -- | -- | -- | -- | -- | 15 | 100 | 6 |
| | Min | -- | 29 | 10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heat N° 78221 | Sample N° 41520 | 20 | 87 | 18 | 4.2 | 7 | 7 | 4.1 | 0 | 0 | 50 | 108 | 7 | 22 | 0 | 4 | 0 | 16 | 65 | 0 | 27 | 0 |

| | | | |
|----------------------------|-------------------|-----------------------|-----------------------|
| Col. 1: SUMA Nb+V+Ti | Col. 3: SUMA Nb+V | Max: Maximum / Máximo | P: Product / Producto |
| Col. 2: SUMA Mo+Cr+Ni+Cu+V | H: Heat / Colada | Min: Minimum / Mínimo | |

THROUGH WALL HARDNESS / DUREZA EN EL ESPESOR

| Heat N° Colada N° | Sample N° Muestra N° | Required values Valores requeridos | | | Individuals / Individuales | | | Average / Promedio | | | Hardness type/Tipo de dureza:HRC | | | | | | | | | | | | | |
|----------------------|-------------------------|---------------------------------------|-----------|---------|----------------------------|-----------|---------|--------------------|---------|---------|----------------------------------|-----------------|------|------|------|------|------|------|------|------|------|------|------|-----|
| | | Min: -- | Max: 22.0 | Var: -- | Min: -- | Max: 22.0 | Var: -- | Min: -- | Max: -- | Var: -- | Quad. | Scale Escala | OD | | | | MW | | | | ID | | | |
| | | | | | Specimen condition | | | Sc | | | | | | | | | | | | | | | | |
| 78221 | 41518 | | | | B | | | AM | | 1 | HRBW | 78.5 | 78.9 | 79.0 | 78.8 | 79.3 | 79.4 | 79.4 | 79.4 | 79.3 | 79.3 | 79.2 | 79.3 | 0.6 |
| 78221 | 41520 | | | | B | | | AM | | 1 | HRBW | 78.7 | 79.4 | 79.3 | 79.1 | 79.7 | 79.7 | 79.9 | 79.8 | 79.6 | 80.0 | 79.8 | 79.8 | 0.7 |

| | | | |
|--|--|--------------------------|--|
| AM: As manufactured / Según proceso de fabricación | ID: Internal diameter / Diámetro interno | Min: Minimum / Mínimo | Quad: Quadrant / Cuadrante |
| Avg: Average / Promedio | Ls: Location of sample / Ubicación de la muestra | MW: Middle wall / Centro | Sc: Specimen condition / Condición de la probeta |

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THROUGH WALL HARDNESS / DUREZA EN EL ESPESOR

| | | | |
|------------------|-----------------------|---|----------------------------|
| B: Body / Cuerpo | Max: Maximum / Máximo | OD: Outside diameter / Diámetro externo | Var: Variation / Variación |
|------------------|-----------------------|---|----------------------------|

FLATTENING TEST / ENSAYO DE APLASTAMIENTO

| Standard / Norma: | | |
|----------------------|-------------------------|---------------------|
| Heat N° Colada N° | Sample N° Muestra N° | Result Resultado |
| 78221 | 41520 | Good / Bueno |

HYDROSTATIC TEST / PRUEBA HIDRAULICA

| Pressure / Presión | | Time / Tiempo | Results / Resultado |
|--------------------|---------------|--------------------|------------------------------|
| Unit / Unidad. | Value / Valor | Seconds / Segundos | |
| mpa | 15.4 | 5 | Satisfactory / Satisfactorio |

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HEAT TREATMENT / TRATAMIENTO TÉRMICO

| | |
|--|--------------|
| Heat treatment / Tratamiento térmico: Pipe / Tubo | |
| Quench media of heat treatment process / Medio de enfriamiento del tratamiento térmico: n/a | |
| Temperature Scale / Escala de Temperatura: n/a | |
| | Type Tipo |
| asrolled | |

SUPPLEMENTARY INFORMATION / INFORMACIÓN SUPLEMENTARIA

| Supplementary Information Información Suplementaria | |
|--|--|
| Manufactured by TenarisTamsa Steel making process: Electric Arc Furnace-Ladle Furnace-Continuous Casting Machine. Fully Killed Steel Material free from Mercury contamination Not repaired by welding Non destructive test. Satisfactory Inspection method FLMPI - EMI - FLVI - MPI - MATERIAL ACCORDING TO NACE MR0175 / ISO 15156-2, 2009 AND NACE MR0103, 2010 ONLY FOR HARDNESS 22 HRC MAX. Tamsa Ref: 675153 | Fabricado por TenarisTamsa Fabricación del acero: Horno de Arco Eléctrico-Horno de Afinación-Máquina de Colada Continua. Acero calmado con aluminio Material libre de contaminación de Mercurio No reparado por soldadura Control no destructivo. Satisfactorio Método de inspección FLMPI - EMI - FLVI - MPI - MATERIAL DE ACUERDO A NACE MR0175 / ISO 15156-2, 2009 Y NACE MR0103, 2010 SOLO DUREZA MAX. 22 HRC Tamsa Ref: 675153 |

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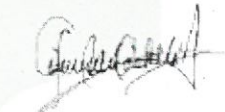
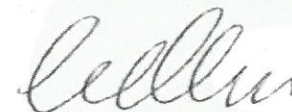
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SUMMARY REPORT / REPORTE RESUMEN

| Heat N° Colada N° | Quantity Cantidad (Pieces) | Length Longitud | | Weight Peso (Tons) |
|----------------------|----------------------------------|--------------------|-------|--------------------------|
| | | (ft) | (m) | |
| 78221 | 5 | 105.91 | 32.28 | 4.113 |

| Average length per pipe Longitud promedio por tubo | | Nominal weight per pipe Peso nominal por tubo | |
|---|-------|--|---------|
| (ft) | (m) | (lb/ft) | (kg/m) |
| 21.182 | 6.456 | 85.616 | 127.416 |

This is to certify that the product described here has been manufactured, sampled, tested, and inspected in accordance with purchaser order requirements. This certificate is not a declaration of origin nor may it be used as a declaration of origin.
 Por el presente certificamos que el material aquí descrito ha sido fabricado, muestreado, ensayado e inspeccionado de acuerdo a los requisitos de su orden de compra. Este certificado no es, ni puede ser usado, como una declaración de origen.

| | |
|---|---|
| <p>CUSTOMER . THIRD PARTY</p> <p>INSPECTION COMPANY COMPAÑIA DE INSPECCION</p> <p>NO APLICA Employee Name: N/A</p> | <p>TENARIS QUALITY DEPARTMENT SIGNATURE</p>  <p>QUALITY CERTIFICATION DEPT. DEPTO. DE CERTIFICACIÓN DE CALIDAD Teresa M. Castellá Abraham</p>  <p>CHIEF OF QUALITY CERTIFICATION DEPT. RESPONSABLE DEL DEPTO. DE CERTIFICACIÓN DE CALIDAD Ángel César Alemán Gil</p> |
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