



INSPECTION CERTIFICATE 3.1
CERTIFICADO DE INSPECCIÓN 3.1
 (EN 10204 3.1:2004-ISO 10474 3.1:2013)

Number / Número:

19058453

Page / Página:

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Date / Día: **November 12, 2019**

Tubos de Acero de México, S.A.
 Carret. México Veracruz KM 433.7 SN
 Delfino Valenzuela Tejería, Veracruz, Veracruz
 C.P. 91697 MEXICO
 (52) 229 989 1100 tel
 (52) 229 989 1600 fax

| | | | | | | | |
|--|--|--|--|--|---|--|---|
| Customer / Cliente: PLESA ANAHUAC Y CIAS. S.A. DE C.V. | | Customer's Order Item / Orden Cliente - Ítem: 28965 ITEM 1 | | Customer's Reference / Ref. del Cliente: N/A | | Manufacturer's Works Order N° / Confirmación de Venta: 275745/01 | |
| Manufacturing Process / Proceso de Manufactura: SEAMLESS HOT ROLLED LAMINADO EN CALIENTE SIN COSTURA | | | Product Type / Tipo de Producto: SEAMLESS LINE PIPE CONDUCCION | | | Surface / Superficie: VARNISHED BARNIZADO | |
| Standard or Specification / Normas o Especificaciones: API 5L ED45 | | | | Steel Grade / Grado de acero: B/X42-L245/L290 PSL1 | | Ends / Extremos: PLAIN END LISO CORTE RECTO | |
| Dimensions / Dimensiones: 1.32 X 0.133 INCH 33.4 X 3.4 MM | | Schedule / Cédula: 040 | Length / Longitud: 19.70 / 21.30 FT 6.00 / 6.50 MTS | | Quantity / Cantidad: 171 Pcs/pz 3,620.046 FT 6,408.871 LB 1,103.390 MTS 2,907.000 KG | | Nominal Weight / Peso Nominal: 1.68 LB/FT 2.52 KG/M |

TENSILE TEST / ENSAYO DE TENSIÓN

| Heat N° Colada N° | Sample N° Muestra N° | Specimen condition Condición de la probeta | | | | Specimen dimensions Dimensiones de la probeta | | Test Temp. ensayo | Y.S. | U.T.S. | Y.S./U.T.S | Elongation / Alargamiento |
|----------------------|-------------------------|---|----|--------------|-----|--|-----------------|-------------------------|---------|---------|------------|---------------------------|
| | | Ls | Sc | Type Tipo | Ori | Size Tamaño | Area Sección | | Min: -- | Req. | Req. Max. | |
| | | | | | | | | | Max: -- | Max: -- | | |
| | | | | | | °C | MPa | MPa | | | % | |
| 23493 | 3187504 | B | AM | Ts | L | 33.66 | 334.1 | RT | 406 | 538 | 0.75 | 48.9 |
| 23494 | 3187381 | B | AM | Ts | L | 33.50 | 308.9 | RT | 433 | 575 | 0.75 | 44.1 |
| 23494 | 3187489 | B | AM | Ts | L | 33.44 | 321.7 | RT | 454 | 552 | 0.82 | 70.7 |

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

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| | | | | Nominal Weight / Peso Nominal: 1.68 LB/FT 2.52 KG/M | | | |

CHEMICAL COMPOSITION / COMPOSICIÓN QUÍMICA

| | | Composition % / Composición % | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|-------------------------|-------------------------------|----|----|----|----|-----|----|--------|----|----|----|----|----|----|----|-----|----|----|----|----|---------|----|----|----|----|----|----|----|
| | | X 100 | | | | | | | X 1000 | | | | | | | | | | | | | X 10000 | | | | | | | |
| | | Al sol | C | Cr | Cu | Mn | Mo | Si | Co | V | Al | Ti | P | Sn | Ni | S | Nb | Sb | As | Pb | Ca | Bi | B | Mg | W | Zr | N | | |
| Heat N° Colada N° | Sample N° Muestra N° | H Max Min | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heat N° Colada N° | Sample N° Muestra N° | P Max Min | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 23493 | -- | H | 2 | 16 | 6 | 9 | 106 | 4 | 25 | 7 | 27 | 21 | 2 | 12 | 5 | 30 | 1 | 3 | 1 | 3 | 1 | 14 | 20 | 1 | 8 | 20 | 10 | 76 | |
| 23493 | 3187503 | P | 2 | 16 | 6 | 11 | 107 | 5 | 26 | 7 | 28 | 24 | 2 | 13 | 6 | 32 | 1.2 | 1 | 1 | 3 | 1 | 18 | 22 | 2 | 5 | 20 | 20 | 78 | |
| 23493 | 3187504 | P | 2 | 16 | 6 | 10 | 108 | 5 | 26 | 7 | 28 | 23 | 2 | 13 | 6 | 31 | 0.9 | 1 | 1 | 3 | 1 | 18 | 22 | 2 | 5 | 20 | 20 | 78 | |
| 23494 | -- | H | 2 | 16 | 6 | 14 | 105 | 5 | 23 | 7 | 26 | 23 | 2 | 12 | 7 | 38 | 1 | 3 | 1 | 4 | 1 | 15 | 20 | 1 | 7 | 20 | 10 | 78 | |
| 23494 | 3187381 | P | 2 | 16 | 7 | 13 | 106 | 5 | 24 | 7 | 26 | 24 | 2 | 13 | 7 | 36 | 1 | 1 | 2 | 3 | 1 | 14 | 22 | 2 | 3 | 20 | 20 | 79 | |
| 23494 | 3187382 | P | 2 | 16 | 7 | 14 | 105 | 5 | 24 | 7 | 28 | 24 | 2 | 13 | 7 | 36 | 1 | 1 | 1 | 3 | 1 | 15 | 22 | 2 | 4 | 20 | 20 | 78 | |
| 23494 | 3187489 | P | 2 | 16 | 7 | 14 | 106 | 5 | 24 | 7 | 27 | 25 | 2 | 13 | 8 | 37 | 1.4 | 1 | 2 | 3 | 1 | 16 | 22 | 2 | 4 | 20 | 20 | 74 | |
| 23494 | 3187490 | P | 2 | 16 | 7 | 14 | 108 | 5 | 24 | 7 | 28 | 27 | 2 | 13 | 8 | 37 | 1.3 | 1 | 2 | 4 | 1 | 15 | 22 | 2 | 4 | 20 | 20 | 77 | |

H: Heat / Colada Max: Maximum / Máximo Min: Minimum / Mínimo P: Product / Producto

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SUPERFICIAL HARDNESS / DUREZA SUPERFICIAL

| Heat N° Colada N° | Sample N° Muestra N° | Ls | Sc | External / Externa Scale / Escala: HBW Req. Min: -- Req. Max: -- | Heat N° Colada N° | Sample N° Muestra N° | Ls | Sc | External / Externa Scale / Escala: HBW Req. Min: -- Req. Max: -- | Heat N° Colada N° | Sample N° Muestra N° | Ls | Sc | External / Externa Scale / Escala: HBW Req. Min: -- Req. Max: -- |
|----------------------|-------------------------|----|----|---|----------------------|-------------------------|----|----|---|----------------------|-------------------------|----|----|---|
| 23493 | 3187504 | B | AM | 198 | 23494 | 3187381 | B | AM | 156 | 23494 | 3187489 | B | AM | 190 |

AM: As manufactured / Según proceso de fabricación B: Body / Cuerpo Ls: Location of sample / Ubicación de la muestra Sc: Specimen condition / Condición de la probeta

BENDING / DOBLEZ

| Standard / Norma: | | | | | | Standard / Norma: | | | | | | Standard / Norma: | | | | | |
|----------------------|-------------------------|--------------|----|----|---------------------|----------------------|-------------------------|--------------|----|----|---------------------|----------------------|-------------------------|--------------|----|----|---------------------|
| Heat N° Colada N° | Sample N° Muestra N° | Zone Zona | Ls | Sc | Result Resultado | Heat N° Colada N° | Sample N° Muestra N° | Zone Zona | Ls | Sc | Result Resultado | Heat N° Colada N° | Sample N° Muestra N° | Zone Zona | Ls | Sc | Result Resultado |
| 23493 | 3187502 | E1 | B | AM | Good / Bueno | 23494 | 3187384 | E1 | B | AM | Good / Bueno | 23494 | 3187488 | E1 | B | AM | Good / Bueno |

AM: As manufactured / Según proceso de fabricación E1 / E2: Ends of Sampling / Extremos de Muestra Sc: Specimen condition / Condición de la probeta
 B: Body / Cuerpo Ls: Location of sample / Ubicación de la muestra

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HYDROSTATIC TEST / PRUEBA HIDRÁULICA

| Pressure / Presión | | Time / Tiempo | Results / Resultado |
|--------------------|---------------|--------------------|------------------------------|
| Unit / Unidad. | Value / Valor | Seconds / Segundos | |
| mpa | 20.48 | 5 | Satisfactory / Satisfactorio |

SUPPLEMENTARY INFORMATION / INFORMACION SUPLEMENTARIA

| Supplementary Information Información Suplementaria |
|--|
| MELTED AND MANUFACTURED BY TENARIS SIDERCA - ARGENTINA ACIERAGE PROCESS: STEEL MARKING PROCESS: E.A.F./L.F. AND CONTINUOUS CASTING - FULL ALUMINIUM KILLED AND FINE GRAIN PRACTICE THE LF PRACTICE INCLUDES ARGON RINSE AND A FINAL INJECTION OF PURE CALCIUM OR CALCIUM SILICIDE WIRE FOR MICROINCLUSION SHAPE CONTROL MATERIAL FREE FROM MERCURY CONTAMINATION ROLLING PROCESS: MANUFACTURING PROCESS: SEAMLESS HOT ROLLED CONTROLS: VISUAL AND DIMENSIONAL INSPECTION: SATISFACTORY MATERIAL CONDITIONS: NOT REPAIRED BY WELDING MATERIAL ACCORDING TO NACE MR-01-75 LATEST EDITION |

| Supplementary Information Información Suplementaria |
|--|
| EDITION OF REGULATION: API 5L, 45° EDITION DECEMBER 2012 EDITION OF REGULATION: ASTM A53/A 53M 2018 EDITION OF REGULATION: ASTM A106/A 106M 2018 EDITION OF REGULATION: ASME SA 53/2017 EDITION OF REGULATION: ASME SA 106/2017 EDITION OF REGULATION: NACE MR 01-75-2015-ISO 15156-2 : 2015 HEAT TREATMENT PROCESS: AS ROLLED NON DESTRUCTIVE TEST ACC. TO SR4: SATISFACTORY INSPECTION METHODS: E.M.I. LONG. (EXT.) NOTCH 12.5% FULL LENGHT WALL THICKNESS MONITORING: U.T. LONGITUDINAL PATH HYDROSTATIC TEST: 2970 PSI(5 seconds): SATISFACTORY THIS PRODUCT WAS CUT IN TWO LENGTHS. THE TENSILE TEST WERE PERFORMED IN THE PRIMARY QUANTITY. TAMSAREF: 300414 |

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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.

| | | | |
|---|--|---|---|
| CUSTOMER . THIRD PARTY | | TENARIS QUALITY DEPARTMENT SIGNATURE | |
| INSPECTION COMPANY COMPAÑIA DE INSPECCIÓN Company Name: N/A Employee Name: N/A | |  QUALITY CERTIFICATION DEPT. DEPTO. DE CERTIFICACIÓN DE CALIDAD Fernando Sabiñón Almendra |  CHIEF OF QUALITY CERTIFICATION DEPT. RESPONSABLE DEL DEPTO. DE CERTIFICACIÓN DE CALIDAD Angel César Alemán Gil |

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