

Larrondo LOIU (VIZCAYA) España
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Management Systems
Certified by
LRQA
ISO 9001 / SGI 6000360
ISO 14001 / SGI 1870678

FLOW TECHNOLOGY LTD

**TEST CERTIFICATE
VERIFIED TRUE
COPY OF ORIGINAL**

ACEROS INOXIDABLES

OLARRA

**OLARRA U.K. LTD.
FOREST PARK - CLEOBURY MORTIMER
NR KIDDERMINSTER - DY 14 9BD - ENGLAND**

Trade Mark - Zeichen des Lieferwerkes
Anagrama del suministrador



Works Inspector Stamp - Werkssachverständiger
Sello del Inspector

3

| | | | | | | | | | | | |
|--|---|--|---|---|--------------|--------------|--------------------------|--|-------------|---|-------------|
| Certificate type - APZ Nach Certificado tipo EN 10204/3.1 | | Certificate n° - Prüf-Nr Certificado n° 335684 | | Date - Datum - Fecha 14 - 12 - 2017 | | | | | | | |
| Our order N° Werks - Nr 646789 N° de Referencia | Heat Schmelze 443424 Colada | Your order N° Bestell - Nr OL8057 Pedido N° | | | | | | | | | |
| Steel Grade Werkstoff 316-S-11 AV Calidad | | According to Entsprechend BS 970:PART 3:1991. Corresponde | | | | | | | | | |
| Shape and Size - Gegenstad Perfil y dimensión ROUND 12,7 mm | Tolerance - Toleranz Tolerancia h 9 /DIN 671 /EN 10278 | Bundles Bunde 6 Bultos | Bars Stäbe Barras | Weight Gewicht Peso 3492 Kg | | | | | | | |
| Requirements - Anforderungen - Exigencias | | | | | | | | | | | |
| EN 10.088-3.2014. EN 10.272-2007. ASTM A 182/A 182M-16. ASTM A 479 / A 479M-17. ASME SA 479 / SA 479M-15 ASTM A 276/A 276M-17. ASME SA 276-2015 SAE AMS 5653H-12. NACE MR-0175/ISO 15156-3 2015. NACE MR-0103/ISO 17945-2015. | | 316S31AV-1.4404-1.4401-Type 316-Type 316L. PED 2014/68/EU, Annex I, Parag.4.3/DGR 2014/68/EU Anhang I Absatz 4.3 Certificate/Zertifikat Nr. 348/2008/MUC | | | | | | | | | |
| Melting process / Erschmelzungsart / Proceso de Fusión E.A.F. / A.O.D. | | Heat treatment / Wärmebehandlung / Tratamiento térmico 1060C 4H/Std WATER/WASSER/AGUA | | | | | | | | | |
| Solution annealed/Abgeschreckt/Hipertemple-Cold drawn/Gezogen/Estirado-Polished/Poliert/Pulido- | | | | | | | | | | | |
| Test results - Ergebnis der Prüfungen - Resultados de los ensayos | | | | | | | | | | | |
| Dimension of Specimen Abmessungen des Probestabes Medida de las probetas RD. 10,00 mm. | Rp0,2% N/mm2 MPA | Rp 1% N/mm2 MPA | Rm N/mm2 MPA | A %L 5D | A %L 4D | Z % | Hardness Härte HBw | Impact test / Kersbschlag / Resiliencia ISO V Jules | | | |
| Temperature °C 20 | Spec. N° Probe Nr. Pro N° | 1 | 491 | 574 | 638 | 34 | 37 | 74 | 197 | | |
| | C | Si | Mn | P | S | Cr | Mo | Ni | Cu | N | Co |
| Min. | | | | | | 16,50 | 2,00 | 11,00 | | | |
| Max. | 0,030 | 1,00 | 2,00 | 0,045 | 0,030 | 18,50 | 2,50 | 14,00 | 0,70 | | |
| | 0,014 | 0,45 | 1,57 | 0,034 | 0,029 | 17,10 | 2,01 | 11,05 | 0,37 | 0,0215 | 0,14 |
| Visual and dimensional inspection Besichtigung und Ausmessung O.K. Control visual y dimensional | Radioactivity inspection Radioaktivitätskontrolle O.K. Control de Radioactividad | Antimixing test Spektrosk Verwechslungspr O.K. Antimezcla | Grain Size Korngröße Tamaño de grano 5-6 ASTM E-112-13 | | | | | | | | |
| Remarks - Bemerkungen - Observaciones | | | | | | | | | | | |
| IC test acc./IK prüfung nach ASTM A 262 E.15. OK | | | | | | | | | | EDV / EDP Acc. EN 10.204 Marian Tejedo Quality Mng. | |
| F14070 1/4" MEDIUM PRESSURE PLUG 316L | | | | | | | | | | Works Inspector Der Werkssachverständige Inspector de fábrica | |

We hereby certify that material described herein complies with the requirements agreed on the order.

Firmado digitalmente por / Signed digitally by:
ACEROS INOXIDABLES OLARRA SA - CIF A48663546
Fecha / Date:14-12-2017 17:16