

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° | 357099 | Date - Datum - Fecha | 15 - 06 - 2018 |
|---|---------------------|--|---------------|----------------------|-----------------------|

| | | | | | |
|--|---------------|----------------------------|---------------|--|---------------|
| Our order N° Werks - Nr N° de Referencia | 666204 | Heat Schmelze Colada | 453142 | Your order N° Bestell - Nr Pedido N° | OL8555 |
|--|---------------|----------------------------|---------------|--|---------------|

| | | | |
|-------------------------------------|--------------------|---|----------------------------|
| Steel Grade Werkstoff Calidad | 316-S-11 AV | According to Entsprechend Corresponde | BS 970:PART 3:1991. |
|-------------------------------------|--------------------|---|----------------------------|

| | | | | | | |
|--|---|----------------------------|----------|-------------------------|---------------------------|----------------|
| Shape and Size - Gegenstad Perfil y dimensión ROUND 32 mm | Tolerance - Toleranz Tolerancia h 10 /EN 10278 | Bundles Bunde Bultos | 3 | Bars Stäbe Barras | Weight Gewicht Peso | 1776 Kg |
|--|---|----------------------------|----------|-------------------------|---------------------------|----------------|

Requirements - Anforderungen - Exigencias

| | |
|---|--|
| EN 10.088-3.2014. EN 10.272-2016. ASTM A 182/A 182M-16. ASTM A 479 / A 479M-17. ASTM A 276/A 276M-17. ASME SA 479 / SA 479M-15 NORSOK M-630 and MDS S01. SAE AMS 5653H-12. NACE MR-0175/ISO 15156-3 2015. ASME SA 182 / SA 182M-15 | 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-Turned/Drehen/Torneado-Polished/Poliert/Pulido-

Test results - Ergebnis der Prüfungen - Resultados de los ensayos

| Dimension of Specimen Abmessungen des Probestabes Medida de las probetas | 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 | |
|--|----------------------------------|-----------------------|--------------------|------------|------------|--------|--------------------------|--|-----|
| RD. 10,00 mm. | Min. | 190 | 225 | 490 | 40 | | | | |
| | Max. | | | | | | | | |
| Temperature °C 20 | Spec. N° Probe Nr. Pro N°. | 1 | 325 | 368 | 603 | 49 | 52 | 73 | 170 |

| | 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 | | |
| | 0,013 | 0,51 | 1,57 | 0,033 | 0,023 | 17,15 | 2,04 | 11,10 | 0,35 | 0,0185 | 0,14 |

| | | | | | | | |
|--|-------------|---|-------------|--|-------------|---|--------------------------|
| Visual and dimensional inspection Besichtigung und Ausmessung Control visual y dimensional | O.K. | Radioactivity inspection Radioaktivitätskontrolle Control de Radioactividad | O.K. | Antimixing test Spektrsk Verwechlungspr Antimezcla | O.K. | Grain Size Korngrösse Tamaño de grano | 7-8 ASTM E-112-13 |
|--|-------------|---|-------------|--|-------------|---|--------------------------|

Remarks - Bemerkungen - Observaciones

IC test acc./IK prüfung nach ASTM A 262 E.15. OK
100% US test/US prüfung. OK
No welding or weld repair.
Free from mercury or radio-activity contamination.
Crack control/Rissgeprüft acc. EN 10277-1 class 3. OK

**EDV / EDP
Acc. EN 10.204
Marian Tejedo
Quality Mng.**

Works Inspector
Der Werkssachverständige
Inspector de fábrica

**F14145
1/2" BSPP C/S X 1/2" NPT M/M ADAPTOR 10K 316L**

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:15-06-2018 12:55