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Management Systems
 Certified by
LRQA
 ISO 9001 / SGI 6000360
 ISO 14001 / SGI 1870678

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° **366287** Date - Datum - Fecha
15 - 10 - 2018

Our order N°
 Werks - Nr **667784** Heat
 Schmelze **462929** Your order N°
 Nº de Referencia Bestell - Nr **OL8591**
 Pedido N°

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

Shape and Size - Gegenstand
 Perfil y dimensión **HEXAGON 38,1 mm** Tolerance - Toleranz
 Tolerancia **h 11 /DIN 176** Bundles
 Bunde **4** Bars
 Stäbe **84** Weight
 Gewicht **2538 Kg**
 Bultos Barras Peso

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
 SAE AMS 5653H-12.
 NACE MR-0175/ISO 15156-3 2015.
 NACE MR-0103/ISO 17945-2015.
 NORSOK M-630 and MDS S01.

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

FLOW TECHNOLOGY LTD
TEST CERTIFICATE
VERIFIED TRUE
COPY OF ORIGINAL

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-

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. | 325 | 375 | 550 | 20 | | | | |
| | Max. | | | | | | | | |
| Temperature °C 20 | Spec. N° Probe Nr. Pro N° | 1 | 357 | 393 | 551 | 46 | 49 | 73 | 166 |

| | 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 | 0,59 | 1,59 | 0,034 | 0,027 | 17,06 | 2,02 | 11,10 | 0,58 | 0,0180 | 0,23 |

Visual and dimensional inspection
 Besichtigung und Ausmessung **O.K.** Radioactivity inspection
 Radioaktivitätskontrolle **O.K.** Antimixing test
 Spektroskop Verwechslungspr **O.K.** Grain Size
 Korngröße **5-6 ASTM E-112-13**
 Control visual y dimensional Control de Radioactividad Antimezcla Tamaño de grano

Remarks - Bemerkungen - Observaciones

IC test acc./IK prüfung nach ASTM A 262 E.15. OK
 Crack control/Rissgeprüft acc. EN 10277-1 class 2. OK
 No welding or weld repair.
 Free from mercury or radio-activity contamination.

F14448
1/2" NPT HEX FULL COUPLING 10K 316L

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

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: 15-10-2018 09:08