



CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a : **EN 10204 (2004) , 3.1 / ISO 10474 (2013) , 3.1**

Certificato nr. **MEST188473 / 2018 / 1**

Nach/According to/Selon

Prüfung/Test/Essai

Cliente / Besteller/Purchaser/Client
VALBRUNA U.K. LTD.
OLDBURY ROAD
B70 9BH - WEST BROMWICH B70 9BH GB - GB

Stato di fornitura : **Hot rolled - Annealed COLD PROCESSED**
 Lieferzustand
 Delivery state
 Etat de livraison

Produttore :
 Hersteller/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **705052100 west bromwich**
 Bestell
 Your order
 Commande

Tipo di Elaborazione: **E+AOD**
 Erschmelzungsart
 Melting process
 Mode d'elaboration

Marchi di Fabbrica:
 Zeichen des Lieferwerkes
 Trade marks
 Sigles de l'usine productrice



Conferma ordine nr: **EI17005969**
 Werks/Our Order/Ref nr.

Qualità: **1.4401/1.4404/316/316L**
 Werkstoff/Grade/Nuance

Punzone del Collaudatore:
 Stempel des Werksachverständigen
 Inspector's stamp/Poinçon de l'essayeur

MR

Avviso di Spedizione: **D-VI18002234**
 Lieferanzeige/Packing list/B.L.

Marca: **MVAPML MAXIVAL**
 Markenbezeichnung
 Brand / Nuance

Punzonatura: **1.4401/4/316/L**
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE :

Anforderungen / Requirements / Exigences

Note:

Aufzeichnungen / Notes / Notes

VAL STOCK 2010 1.4404/316L A,CF
 AISI 316
 AISI 316L
 AMS 5648 M S31600 A
 AMS 5653 H S31603 A,CF
 ASME SA182 2015 S31600 A (0)
 ASME SA182 2015 S31603 A (1)
 ASME SA193 2015 B8M CLASS 1 (2)
 ASME SA276 2015 S31600 A,CF (3)
 ASME SA276 2015 S31603 A,CF (4)
 ASME SA320 2015 B8M CLASS1 (5)
 ASME SA479 2015 S31600 A (6)
 ASME SA479 2015 S31603 A (7)
 ASTM A182 2016 S31600 A (8)
 ASTM A182 2016 S31603 (9)
 ASTM A193 2016 B8M CLASS 1
 ASTM A262 2015 PRACTICE E
 ASTM A276 2017 S31600 A,CF
 ASTM A276 2017 S31603 A,CF
 ASTM A320 2017A B8M CLASS1
 ASTM A370 2017 .
 ASTM A479 2017 S31600 A
 ASTM A479 2017 S31603 A
 ASTM E10 2017 .
 ASTM E8 2016A .
 DIN 17440 96 1.4401 A
 EN 10088-3 2014 1.4401 A
 EN 10088-3 2014 1.4404 A
 EN 10272 2007 1.4401 A
 EN 10272 2007 1.4404 A
 ISO 148-1 2009 .
 ISO 6506-1 2005 .
 ISO 6892-1 2009 .
 NACE MR0103 2015 S31600 A (A)
 NACE MR0103 2015 S31603 A (B)
 NACE MR0175 2015 S31600 A (C)
 NACE MR0175 2015 S31603 A (D)
 QQ-S-763 F 316 A,CF
 QQ-S-763 F 316L A,CF
 MDS S01 5 316 A (E)
 ASTM A479 2017 S31600 A

(0)SEC.II PT.A 2015 EDITION For products machined directly from bar refer to ASME SA479.

(1)SECTION II PT.A 2015 EDITION For products machined directly from bar refer to ASME SA479.

(2)SECTION II PT.A 2015 EDITION

(3)SEC.II PT.A 2015 EDITION

(4)SECTION II PT.A 2015 EDITION

(5)SECTION II PT.A 2015 EDITION

(6)SECTION II PT.A 2015 EDITION

(7)SECTION II PT.A 2015 EDITION

(8)For products machined directly from bar refer also to ASTM A479.

(9)For products machined directly from bar refer also to ASTM A479.

FLOW TECHNOLOGY LTD
TEST CERTIFICATE
VERIFIED TRUE
COPY OF ORIGINAL

(A)ANSI/NACE MR0103/ISO 17945 November 23, 2015

(B)ANSI/NACE MR0103/ISO 17945 November 23, 2015

(C)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015

(D)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015

(E)Norsok-standard M-630 Edition 6, October 2013

F14488
2" BSPP CS HEX PLUG 10K 316L

Vicenza, 08/02/18

VCQ008 - MEST199332

(Mod. MCE2) WSPPEEC98DCD08943E4AC57A58CD13F0E65

Il collaudatore di stabilimento / der Werkssachverständige / Works inspector / L'agent d'usine

M.RIZZOTTO

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Tolleranza: h11 - DIN668/EN10278

Tolleranza/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrip. du produit	Dimensioni - mm Abmessungen Dimension Dimension		Lunghezza - mm Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pieces	Peso - KG Gewicht Weight Poids	Lotto nr. Losnr. Lot nr. Lot nr.
		Tolleranza/Allowance/Tolerance						
0010	Hexagon	69,850		3065/ 3070	274898		1236,0	714309950

TEST ALLO STATO DI FORNITURA

Test on delivery condition Prüfung auf lieferbarem produkt test a l'etat de fourniture Prueba sobre el material así como entregado

1) L=longitudinale/längs, T=trasversale/quer, Q=Tangenziale/tangential

TEST	Provetta/ Probestab Specimen/Eprouvette Larg.diam Spess. Breite Diam. Dicke Width Diam. Thickness Larg. diam. epais mm	°C	Posiz. Saggio Probenlage Location Emplacement	Snervamento	Snervamento	Resistenza	Allungamento		Strizione		Resilienza	Durezza		
				Streckgrenze Yield Stress Limite elastique Rp 0,2% N/mm2	Streckgrenze Yield Stress Limite elastique Rp 1% N/mm2	Zugfestigkeit Tensile strength Resistance à traction Rm N/mm2	A5 %	E 4d %	Z %	RA %	KV J	Haerte Hardness Durete HB		
Valori richiesti Anforderungen/Required values Valeurs demandées	min max	207	240	517 700	40	35	-	50	100	140 215				
A	10	20	L	467	513	671	43	47	69	69	185	190	190	211

TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf lieferbarem produkt / Test a l'etat de fourniture / Prueba sobre el material así como entregado

TEST	min	max
A	Grain size for ASTM E112	5

Mechanical properties according to ASTM A370.

Brinnell hardness according to ASTM E10

Tensile testing according to ASTM E8

Impact testing according to ISO 148-1

Brinnell hardness according to ISO 6506-1

Tensile testing according to ISO 6892-1

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Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata /Heat Schmelze/Coulée	min - max	1,25 2,00	16,50 18,00	2,00 2,50	10,00 13,00	0,040 0,030	0,030 0,100	-	-	-	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	P %	S %	N %				
274898	0,020	0,49	1,40	16,61	2,03	0,42	10,04	0,029	0,026	0,054				

Corrosion test in 16% sulfuric acid and copper sulfate solutions

Test standard: **ASTM A262-Practice E**

Test	Heat treatment before test	Length of Period (h)	Test temp (°C)	Bend Angle (°)	Ø spindle (mm)	Result of visual inspection at 20 x magnification after bend test	Result
Intergranular corrosion	Sensitization	15	boil	180	5	Absence of cracks	SATISFACTORY

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Intergranular corrosion	Sensitization	15	boil	180	5	Absence of cracks	SATISFACTORY

Corrosion test in 16% sulfuric acid and copper sulfate solutions

Test standard: **UNI EN ISO 3651-2 Method A**

Test	Heat treatment before test	Length of Period (h)	Test temp (°C)	Bend Angle (°)	Ø spindle (mm)	Result of visual inspection at 20 x magnification after bend test	Result
Intergranular corrosion	Sensitized T1	20	boil	90	5	Absence of cracks	SATISFACTORY

Reduction ratio = **7,9 : 1**
 Material solution annealed **1080° C** for 1.5h/water cooled.

Sono state soddisfatte tutte le condizioni richieste
 Die gestellten Anforderungen sind it. Anlage erfüllt
 The material has been furnished in accordance with the requirements
 Le materiel à été trouvé conforme aux exigences

Controllo antimiscelazione: **OK**
 Verwechslungsprüfung: spectralanalytisch durchgeführt
 Antimixing testing performed: **OK**
 Contrôle antimelange fait: r.a.s.

Controllo visivo e dimensionale: **soddisfa le esigenze**
 Besichtigung und Ausmessung: ohne Beanstandung
 Visual inspection and dimensional checks: **satisfactory**
 Contrôle visuel et dimensions: **satisfaisant**

Melted and manufactured in Italy No welding or weld repair Material free from Mercury contamination

We declare that the finished product is checked for radioactive contamination through Portal System when it leaves the production plant.

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2008, IATF 16949 : 2016, AS 9100C

The Quality Management System is Certified acc. Pressure Equipment Directive "[97/23/EC]" Annex 1,s.,4.3 and 2014/68/EU by TUEV and LLOYD'S
 Any act of tampering, modification, alteration, counterfeiting and/or falsification and/or any other action which modifies the contents of this test certificate shall constitute a violation of applicable civil and criminal laws. Acciaierie Valbruna shall protect its rights and interests before any competent court, authority and jurisdiction.

Maxival and/or Valplus grades/products are manufactured with ladle techniques to control composition, distribution, size and shape of non-metallic inclusions for improved machinability.

The supplied product conforms to requirements expressly requested by the purchaser and conforms to requirements specified by certified norms and standards. Should the product be used for more severe, critical and/ or in any case different applications than those the material is generally intended for, any different and/or supplementary requirements shall be specifically demanded, at least, upon order of the Product by the Purchaser. Acciaierie Valbruna SpA shall not be responsible for any improper use of the Products.

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