



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 Telefono 0444.968211 - Fax 0444.963636  
 Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37  
 Telefono 0471.924111 - Fax 0471.924497

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

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

Certificato nr. MEST506081 / 2020 /  
 Prüfng/Test/Essai

Cliente / Besteller/Purchaser/Client  
**VALBRUNA CANADA LTD**  
 8724 HOLGATE CRESCENT  
 L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

Stato di fornitura: Hot rolled Polished Annealed  
 Lieferzustand: Peeled  
 Delivery state:  
 Etat de livraison:

Produttore:  
 Hersteller/Fabrikant/Usine productrice

**ACCIAIERIE VALBRUNA S.P.A.**

Ordine nr: 912007813 RELIANCE  
 Bestell: Your order  
 Commande:

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

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



Conferma ordine nr: EI19009826  
 Werts/Dur Order/Ref nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance:

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

MR

Avviso di Spedizione: D-VI20000689  
 Lieferanzeige/Packing list/BL

Marca: MVAPML (MAXIVAL)  
 Markenbezeichnung:  
 Brand / Nuance:

Punzonatura: 316/316L  
 Kennzeichnung:  
 Marking:  
 Marquage:

### SPECIFICHE :

Note:

Anforderungen / Requirements / Exigences

Aufzeichnungen / Notes / Notes

VSI 0 316/316L A  
 AISI 316/316L  
 AMS 5648 M S31600 A  
 AMS 5653 H S31603 A  
 AMS-QQ-S-763 D 316/316L A  
 ASME SA182 2019 S31600/03 A (0)  
 ASME SA193 2019 B8M CLASS 1 (1)  
 ASME SA276 2019 S31600/03 A (2)  
 ASME SA320 2019 B8M CLASS 1 (3)  
 ASME SA479 2019 S31600/03 A (4)  
 ASTM A182 2019 S31600/03 A (5)  
 ASTM A193 2017 B8M CLASS 1  
 ASTM A262 2015 PRACTICE E  
 ASTM A276 2017 S31600/03 A  
 ASTM A314 2019 S31600/03  
 ASTM A320 2018 B8M CLASS 1 CLASS 1  
 ASTM A370 2019 . (6)  
 ASTM A473 2001 S31600/03 (7)  
 ASTM A479 2018 S31600/03 A  
 MIL-S-862 B/1 316/316L  
 NACE MR0103 2015 S31600/03 A (8)  
 NACE MR0175 2015 S31600/03 A (9)  
 QQ-S-763 F 316/316L A

(0)Section II Part A 2019 EDITION For products machined directly from bar refer to ASME SA479.  
 (1)Section II Part A 2019 EDITION  
 (2)Section II Part A 2019 EDITION  
 (3)Section II Part A 2019 EDITION  
 (4)Section II Part A 2019 EDITION  
 (5)For products machined directly from bar refer also to ASTM A479.  
 (6)2019E1  
 (7)Chemical analysis only.  
 (8)ANSI/NACE MR0103/ISO 17945 November 23, 2015  
 (9)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015

*P.886547  
 509358  
 Load # 49699*

Tolleranza: ASTM A484-18A TABLE 7

Tolerance/Allowance/Tolérance

Pos. nr. Pos. No. Item nr. No. de pièce	Oggetto Description Produit désigné Design. de produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Rohrweite Steel Cotes	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Loseil. Lot no. Lot no.
0080	Round	4,0000	153/ 157	432608	4	2.227	923500980

*ANS*



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Bestell  
 Your order  
 Commande

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

MR

Conferma ordine nr: E119009826

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

Avviso di Spedizione: D-VI20000689  
 Lieferanzeige/Packing list/B.L.

Marca: MVAPML ( MAXIVAL )  
 Markenbezeichnung:  
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Punzonatura: 316/316L  
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### 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	Provetta/ Probe Stammprobe Lap. diam. Spec. Solid Diam. Dia. Wahl Diam. Thickness Lap. diam. mm	°F	Posiz. Ø Position Lø	Snervamento Strängziehe Yield Stress Limite elastique Rp 0,2% k.s.l.	Snervamento Strängziehe Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Bruchdehnung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti				30	-	75	40	50	-	140
Anforderungen/Required values Vorgabe der Werte						115				223
A	12,5	68	L	43		84	55	70		171

### TEST ALLO STATO DI FORNITURA

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TEST	min	max
A Grain size for ASTM E112		6

Mechanical properties according to ASTM A370.

### Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Coils Heat Schmelze/Couille	min	max	1,25	16,50	2,50	16,50	1,00	14,00	0,040	0,020	0,100	-	-	-	-
	0,030	1,00	2,00	18,00	3,00	14,00	1,00	14,00	0,040	0,020	0,100	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	-	-	-	-
432608	0,018	0,69	1,63	16,73	2,06	0,55	10,06	0,084	0,031	0,026	0,087	-	-	-	-

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

Produced without class I-II Ozone depleting substances.  
 Solution heat treated free from continuous carbide network.  
 Material annealed 1940°F for 2h/water cooled.  
 Micro and macro etch test: OK.  
 Reduction ratio = 30,1 : 1  
 Material is DFARS Compliant

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

Controllo antimiscelanza: OK  
 Verwechslungsprüfung: spektralanalytisch durchgeführt  
 Anti-mixing testing performed: OK  
 Contrôle anti-mélange fait: s.a.s.

Controllo visivo e dimensionale: soddisfa le esigenze  
 Beschäftigung und Ausmessung: ohne Beanstandung  
 Visual inspection and dimensional checks: satisfactory  
 Contrôle visuel et dimensionnel: 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 : 2015, IATF 16949 : 2016, AS 9100D



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The Quality Management System is also Certified according Pressure Equipment Directive 2014/68/EU Annex 1, chapt.4.3 by TÜV 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.