



# Acciaierie Valbruna S.p.A.

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

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

Certificato nr. MEST670380 / 2021 /  
 Prüfung/Test/Essai

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

Stato di fornitura: Forged - Annealed Peeled  
 Lieferzustand  
 Delivery state  
 Etat de livraison

Produttore:  
 Hersteller/Item/Usine productrice

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

Ordine nr: 101008422 RELIANCE PROGRA  
 Bestell  
 Your order  
 Commande

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

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



Conferma ordine nr: EI21000219  
 Werks/Our 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-VI21001529  
 Lieferanzeige/Packing list/B.L.

Marca: APML  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

### SPECIFICHE :

Anforderungen / Requirements / Exigences

### Note:

Auzeichnungen / Notes / Notes

VSI 0. 316/316L A  
 AISI 316/316L  
 AMS 5648 M S31600 A  
 AMS 5653 J 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 CLASS1 (3)  
 ASME SA479 2019 S31600/03 A (4)  
 ASTM A182 2020 S31600/03 A (5)  
 ASTM A193 2019 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 CLASS1  
 ASTM A370 2020. (6)  
 ASTM A473 2019 S31600/03 (7)  
 ASTM A479 2020 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.O.#: P123166  
 R#: R167835  
 ITEM#: 523266  
 HEAT#: 284570  
 BRANCH#: 875

Tolleranza: ASTM A484-20B TABLE 3.

Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrpt. du produit	Tolleranza/Allowance/Tolerance		Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Lose Lot nr. Lot nr.
		Dimensioni - In Abmessungen Dimension Dimension						
0010	Round	16,0000		155/ 155	284570		9.021	127509510

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D

Vicenza, 26/01/2021 VCQ052 - MEST670380	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 1 di 3
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Produttore:  
 Hersteller/Hersteller  
 Hersteller/Usine productrice

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Ordine nr: **101008422 RELIANCE PROGRA**  
 Bestell  
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Tipo di Elaborazione: **E+AOD**  
 Erzeugungsmethode  
 Making process  
 Mode d'elaboration

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



Conferma ordine nr: **EI21000219**  
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Qualità: **316/316L**  
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Punzone del Collaudatore:  
 Stempel des Werkstoffprüferstandigen  
 Inspector's stamp/Poinçon de l'essayeur

**MR**

Avviso di Spedizione: **D-VI21001529**  
 Lieferanzettel/Packing list/B.L.

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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/échantillon	°F	Post. Seggio	Snervamento	Snervamento	Resistenza	Allungamento	Strizione	Resilienza	Durezza
	Specimen/Eprovette									
	Long. diam. Spess. Bolla Diam. Dicke Width Diam. Thickness Laig. diam. épaisseur mm		Erzeugungsmethode	Yield Stress Limite élastique Rp 0,2%	Yield Stress Limite élastique	Tensile strength Resistance à traction Rm	Elongation Allongement E 4d	Reduction of area Section RA	Impact Value Resilience	Hardness Dureté HB
	Valori richiesti	min		30	-	75	-	40	-	140
	Anforderungen/Required values	max				115		50		223
A	12,5	68	L	38		80	64	74		166

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		1

Mechanical properties according to ASTM A370.

Analisi chimica											
Chemische Zusammensetzung/Chemical Analysis/Analyse chimique											
Coilata / Heat	min	max	1,25	16,60	2,00	10,00	0,020	0,030	0,100		
Schmelze/Coilote	0,030	1,00	2,00	16,00	3,00	14,00	0,040	0,030	0,100		
	C %	SI %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %
284570	0,016	0,46	1,87	16,53	2,09	0,52	10,10	0,152	0,031	0,028	0,085

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.  
 Micro and macro etch test: OK.  
 Reduction ratio = 4,3 : 1  
 Material annealed 1940°F for 7h/water cooled.  
 Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste Die gestellten Anforderungen sind in Anlage erfüllt The material has been furnished in accordance with the requirements Le matériel a été fourni conforme aux exigences	Controllo antimiscelanza con tecnica XRF/OES portatile : OK Vannechtungprüfung: durch XRF/OES Gerät getührt. Antimixing testing performed with XRF/OES portable : OK Contrôle antimélange est technique XRF/OES portable : OK	Controllo visivo e dimensionale: soddisfa le esigenze Besichtigung und Ausmessung: ohne Beanstandung Visual inspection and dimensional check: satisfactory Contrôle visuel et dimensions: satisfaisant
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Melted, poured 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 by the portal system when it leaves the production plant.

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.  
 Maximal 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.

Provided by CPA  
[www.flowconditioner.com](http://www.flowconditioner.com), [info@cpacla.com](mailto:info@cpacla.com)

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		Pagina 3 di 3