



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

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

Certificato nr. MEST879709 / 2022 /  
 Prüfung/Tast/Essai

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

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

Produttore:  
 Hersteller/Werk/Usine productrice

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

Ordine nr: 112009227 RELIANCE PROGRA  
 Bestell  
 Your order  
 Commande

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

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



Conferma ordine nr: EI21016478  
 Werks/Our Order/Ref. nr.

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

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

**MR**

Avviso di Spedizione: **D-VI22003297**  
 Lieferanzeige/Packing Inv/B.L.

Marca: **APML**  
 Markenbezeichnung  
 Brand / Nuance

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

SPECIFICHE :	Nota:
Anforderungen / Requirements / Exigences	Aufzeichnungen / 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 2021 S31600/03 A (0)	(0)Section II Part A 2021 EDITION For products machined directly from bar refer to ASME SA479
ASME SA193 2021 B8M CLASS 1 (1)	(1)Section II Part A 2021 EDITION
ASME SA276 2021 S31600/03 A (2)	(2)Section II Part A 2021 EDITION
ASME SA320 2021 B8M CLASS 1 CLASS1 (3)	(3)Section II Part A 2021 EDITION
ASME SA479 2021 S31600/03 A (4)	(4)Section II Part A 2021 EDITION
ASTM A182 2021 S31600/03 A (5)	(5)For products machined directly from bar refer also to ASTM A479
ASTM A193 2020 B8M CLASS 1	
ASTM A262 PR. E 2015 316/316L (6)	(6)Reapproved 2021
ASTM A276 2017 S31600/03 A	
ASTM A314 2019 S31600/03	
ASTM A320 2018 B8M CLASS 1 CLASS1	
ASTM A370 2021	
ASTM A473 2021 S31600/03 (7)	(7)Chemical analysis only.
<b>ASTM A479 2021 S31600/03 A</b>	
MIL-S-862 B/1 316/316L	
NACE MR0103 2015 S31600/03 A (8)	(8)ANSI/NACE MR0103/ISO 17945 November 23, 2015
<b>NACE MR0175 2015 S31600/03 A (9)</b>	(9)ANSI/NACE MR0175/ISO 15156-3, 3rd edition November 23, 2015
QQ-S-763 F 316/316L A	

P.O.#: **P124380**  
 R#: **R172937**  
 ITEM#: **S09318**  
 HEAT#: **286973**  
 BRANCH#: **87S**

Tolleranza: ASTM A484-20B TABLE 3

Pos. nr. Pos. nr. No. de poste	Oggetto Objekt Product description Description de produit	Tolleranza/Allowance/Tolerance		Lunghezza - In Länge Length Longueur	Colata Schmelze Pour Casting	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losn. Lot nr. Lot no.
		Dimensioni - In Abmessungen Dimension Dimension						
0060	Round	8,5000		218/ 218	<b>286973</b>		3.583	120015030

20

Provided by CPA  
 www.flowconditioner.com,info@cpacl.ca

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, <b>04/02/2022</b> VCO052 - MEST879709	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité <b>R.BERTELLI</b>	Direzione Prodotto Produktmanagement/Product Management/Direction Produit <b>P.MESSORI</b>	Pagina 1 di 3

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# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 26 z.l.  
 Telefono 0444.988211 - Fax 0444.983836  
 Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37  
 Telefono 0471.924111 - Fax 0471.024497

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

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

Produttore:  
 Hersteller/Hersteller/Produced by

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

Ordine nr. 11200922? RELIANCE PROGRA

Tipo di Elaborazione: E+AOD  
 Erzeugnisleistung  
 Making process  
 Mode d'elaboration

Marchi di Fabbrica:  
 Zeichen des Lieferanten  
 Trade marks  
 Signs of the producer



Bestell  
 Your order  
 Commande

Qualità: 316/316L  
 Werkstoff/Grade/Reference

Punzone del Collaudatore:  
 Stempel des Werkstoffprüfingen  
 Inspector's stamp/Prüfung der

MR

Conferma ordine nr. EI21016478  
 Werk/Cur Order/Ref nr.

Marca: APLM  
 Markenbezeichnung  
 Brand / Marque

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

TEST ALLO STATO DI FORNITURA										
Test on delivery condition / Prüfung auf Lieferbareitem produkt / Test a l'état de fourniture / Prueba sobre el material así como entregado										
TEST	Provette / Probes Sprobenaufgewichte Long. diam. Ømm Gross Diam. Ømm Werk.Diam. Ømm Long. diam. Ømm	°F	Posiz. Saggio Position Position	Snervamento Sverkerz Yield stress Limite élastique Rp 0,2% k.s.l.	Snervamento Grenzspanne Yield stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction RA %	Resistenza Kerbschlagwert Impact Value Résistance	Durezza Härte Hardness Dureté H13
Valori richiesti Anforderungen/Required values Valeurs Requises				30	-	75	40	50	-	140
A	12,5	68	L	39		83	58	72		165

TEST ALLO STATO DI FORNITURA			
Test on delivery condition / Prüfung auf Lieferbareitem produkt / Test a l'état de fourniture / Prueba sobre el material así como entregado			
TEST	min	max	
A Grain size for ASTM E112			4

Mechanical properties according to ASTM A370.

Analisi chimica												
Chemische Zusammensetzung/Chemical Analysis/Analyse chimique												
Colata / Metall Schmelze/Guße	min - max	0,030	1,00	1,25 2,00	10,00 10,00	2,00 3,00	1,00	10,00 14,00	0,020	0,035	0,100	
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
288973	0,016	0,58	1,69	16,58	2,05	0,88	10,00	0,152	0,029	0,028	0,091	

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)	Bond 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 eich test: OK.  
 Reduction ratio = 7.0 : 1  
 Material annealed 1976°F for 5 h / water cooled.  
 Material is DFARS Compliant

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

Controllo antimiscelanza con tecnica XRF/OES portatile: OK  
 Verwechslungsprüfung: durch XRF/OES Gerät positiv.  
 Antimiting testing performed with XRF/OES portable. OK  
 Contrôle antimélange en technique XRF/OES portable. OK

Controllo visivo e dimensionale: soddisfa le esigenze  
 Das eingehende und Ausmessung ohne Beanstandung  
 Visual inspection and dimensional checks satisfactory  
 Contrôle visuel et dimension: satisfaisant

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 04/02/2022 VCQ052 - MEST879709	Direzione Qualità Qualitätsmanagement/Quality Management/Direction Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produits P. MESSORI	Pagina 2 di 3



# Acciaierie Valbruna S.p.A.

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Produttore:  
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ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 112009227 RELIANCE PROGRA  
Bestell  
Your order  
Commande

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

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



Conferma ordine nr: EI21016478  
Werk/Dur Confirmation nr.

Qualità: 316/316L  
Werkstoff/Grade/Nuance

Punziona del Collaudatore:  
Stempel des Werkstoffvorstandigen  
Inspector's stamp/Plaque de l'essayeur

MR

Avviso di Spedizione: D-VI22003297  
Lieferanweisung/Packing Instruction

Marca: APML  
Markenbezeichnung  
Brand / Nuance

Punzonatura: 316/316L  
Kennzeichnung  
Marking  
Marquage

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.

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Vicenza, 04/02/2022  
VCC052 - MEST879709

Direzione Qualità  
Quality Management/Qualitätsmanagement  
R. BERTELLI

Direzione Prodotto  
Product Management/Produktmanagement  
P. MESSORI

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