



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.i.  
 Telefono 0444.968211 - Fax 0444.963836  
 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. **MEST036769 / 2022 /**  
 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. **203009374 Stock - Canada**

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

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



Conferma ordine nr: **EI22003087**

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

Punzone del Collaudatore:  
 Stempel des Werksachverständigen  
 Inspector's stamp/Impression de l'Assayeur

**MR**

Avviso di Spedizione: **D-VI22012505**

Marca: **APML**  
 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 J S31603 A  
 AMS-QQ-S-763 D 316/316L A  
 ASME SA182 2021 S31600/03 A (0)  
 ASME SA193 2021 B8M CLASS 1 (1)  
 ASME SA276 2021 S31600/03 A (2)  
 ASME SA320 2021 B8M CLASS 1 CLASS1 (3)  
 ASME SA479 2021 S31600/03 A (4)  
 ASTM A182 2021 S31600/03 A (5)  
 ASTM A193 2020 B8M CLASS 1  
 ASTM A262 PR. E 2015 316/316L (6)  
 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)  
 ASTM A479 2021 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 2021 EDITION For products machined directly from bar refer to ASME SA479.  
 (1)Section II Part A 2021 EDITION  
 (2)Section II Part A 2021 EDITION  
 (3)Section II Part A 2021 EDITION  
 (4)Section II Part A 2021 EDITION  
 (5)For products machined directly from bar refer also to ASTM A479.  
 (6)Reapproved 2021  
 (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

Tolleranza: ASTM A484-21 TABLE 3

Toleranz/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrip. du produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losenr. Lot nr. Lot nr.
0010	Round	11,0000	149/ 149	288330		4,187	201210970

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

Vicenza, <b>05/05/2022</b> VCC052 - MEST036769	Direzione Qualità Qualitätsmanagement/Quality Management/Direction Qualité <b>R.BERTELLI</b>	Direzione Prodotto Produktmanagement/Product Management/Direction Produit <b>P.MESSORI</b>	Pagina 1 di 3
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 Delivery state  
 Etat de livraison

Produttore:  
 Hersteller/Fabrik/Usine productrice

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

Ordine nr: 203009374 Stock - Canada  
 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 fusine productrice



Conferma ordine nr: EI22003087  
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Qualità: 316/316L  
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Punzone del Collaudatore:  
 Stempel des Werksachverständigen  
 Inspector's stamp/Poinçon de l'assesseur

MR

Avviso di Spedizione: D-VI22012505  
 Lieferanzeige/Packing list/V.L.

Marca: APML  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
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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

1) L=longitudinale/längs, T=transversale/quer, Q=Tangenziale/tangentiaal

TEST	Provetta/ Probestab Specimen/Eprouvette Long. diam. Spess. Brutte Diam. Dicke Width Diam. Thickness Long. diam. spess. mm	Posiz. Saggio Probestab Location Eingelagert	Snervamento Streckgrenze Yield Stress Limite elastique Rp 0,2% k.s.l.	Snervamento Streckgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti Anforderungen/Required values Valeurs demandées	min max		30	-	75 115	- 40	- 50	-	140 223
A	12,5 68	L	39		82	59	74		169

### 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		4

Mechanical properties according to ASTM A370.

### Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata /Heat Schmelze/Coulée	min - max	0,030	1,00	0,25 2,00	16,50 18,00	2,00 3,00	1,00	13,00 14,00	0,040	0,020 0,030	0,100	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %				
288330	0,019	0,33	1,77	16,88	2,15	0,51	10,18	0,147	0,032	0,029	0,094				

### 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 = 4,2 : 1  
 Material annealed 1976°F for 6 h /water cooled.  
 Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste  
 Die gestellten Anforderungen sind 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 geführt.  
 Antimixing testing performed with XRF/OES portable : OK  
 Contrôle antimélange svr technique XRF/OES portable : OK

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

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W/H



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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.

MEST036769

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Vicenza, 05/05/2022

VCQ052 - MEST036769

Direzione Qualità  
Qualitätsmanagement/Quality Management/Qualité Gestion

R.BERTELLI

Direzione Prodotto  
Produktmanagement/Product Management/Direction Produit

P.MESSORI

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