



# Acciaierie Valbruna S.p.A.

35100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 Telefono 0444.958211 - Fax 0444.983836  
 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. MEST108480 / 2022 /

Nach/According to/Selon

Prüfung/Text/Essai

Cliente / Besteller/Purchaser/Client  
 VA\_BRUNA 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/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 207009561 RELIANCE

Bestell  
 Your order  
 Commande

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

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



Conferma ordine nr: EI22007851

Werkst/Our Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

Punzone del Collaudatore:  
 Stempel des Werkstoffverstar/digen  
 Inspecteur's stamp/Emprison de l'essayeur

MR

Avviso di Spedizione: D-VI22026212  
 Lieferanzettel/Packing list/B.L.

Marca: APLM  
 Markenzeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

**SPECIFICHE:**

Note:

Anforderungen / Requirements / Exigences

Auzeichnungen / Notes / Notes

VSI 0/1 316/316L A  
 AISI 316/316L  
 AMS 5643 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 SA193 2021 B8M CLASS 1 (2)  
 ASME SA276 2021 S31600/03 A (3)  
 ASME SA320 2021 B8M CLASS 1 (4)  
 ASME SA479 2021 S31600/03 A (5)  
 ASTM A182 2021 S31600/03 A (6)  
 ASTM A193 2020 B8M CLASS 1  
 ASTM A262 PR. E 2015 316/316L (7)  
 ASTM A276 2017 S31600/03 A  
 ASTM A314 2019 S31600/03  
 ASTM A320 2022 B8M CLASS 1 CLASS 1  
 ASTM A370 2021  
 ASTM A473 2021 S31600/03 (8)  
 ASTM A479 2021 S31600/03 A  
 MIL-S-862 B/1 316/316L  
 NACE MR0103 2015 S31600/03 A (9)  
 NACE MR0175 2015 S31600/03 A (A)  
 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)Section II Part A 2021 EDITION

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

(7)Reapproved 2021

(8)Chemical analysis only.

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

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

P.O.#: P126008  
 R#: R178208  
 ITEM#: 521534  
 HEAT#: 289554  
 BRANCH#: 875

Tolleranza: ASTM A434-21 TABLE 3

Tolerance/Allowance/Tolérance

Pos. nr. Pos. nr. Item nr. No. de poste	Oggetto Gegenstand Produc. description Description de produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stücken Pieces	Peso - LB Gewicht Weight Poids	Lotto nr. Lose Lot no. Lot no.
0070	Round	13,0000	134/ 134	289554		5,179	213208130

**TEST ALLO STATO DI FORNITURA**

TEST	min	max
A Grain size for ASTM E112		1

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

Vicenza, 24/10/2022 VCO052 - MEST108480	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 1 di 3
--	---	---	------------------

2/a



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.  
Telefono 0444.968211 - Fax 0444.963836  
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37  
Telefono 0471.924111 - Fax 0471.924497

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

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

Certificato nr. MEST108480 / 2022 /  
Prüfung/ Essai

Client e / 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. 207009561 RELIANCE

Bestell  
Your order  
Commande

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

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



Conferma ordine nr. EI22007851

Werkz./Our Order/Ref. nr.

Qualità: 316/316L  
Werkstoff/Grade/Numéro

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

MR

Avviso di Spedizione: D-VI/22026212

Lieferanzeige/Packing list/B.L.

Marca: APML  
Markenbezeichnung  
Brand / Nuance

Punzonatura: 316/316L  
Markierung  
Marquage

### Test on delivery condition per ASTM A370

TEST	Provenza/ Provenance Spezies/Species Liegung/Place Brand, Diam., Dicks. Weld Diam., Thickness Long. Diam. spars. mm	°F	Posiz. Saggio Position Location Emplacement ft	Sneramento Streckgrenze Yield Stress Limite élastique Rp 0,2% k.s.i.	Sneramento Streckgrenze Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.i.	Alungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschränkung 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	-
C	12,5	68	L	46		85	53	74		165

Mechanical properties according to ASTM A370.

### Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique												
Colata Schmelze/Coulee	Heat Göüte	min max	1,00	1,25 2,00	16,00 18,00	2,00 3,00	10,00 14,00	0,020	0,040	0,030	0,00	
C %	SI %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %		
289554		0,014	0,47	1,77	16,68	2,10	0,57	10,05	0,133	0,027	0,028	0,074

### 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 (°)	∅ spindle (mm)	Result of visual inspection at 20 x magnification after bend test	Result
Intergranular corrosion	Sensitization	16	boil	80	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 = 4,7 : 1  
Material annealed 1976°F for 10,5 h/water cooled  
SURFACE QUALITY WITH MAX DEFECT DEPTH 1% DIAMETER  
UT ACC. TO ASTM A388  
Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste  
Die gestellten Anforderungen sind in der 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  
Verwechslungsprüfung: durch XRF/OES Gerät gefährt: OK  
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 dimensionnel: satisfaisant

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.

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

Vicenza, 24/10/2022 VCC052 - MEST108480	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Dirección Product P. MESSORI	Pagina 2 di 3
--	--	--	------------------



# Acciaierie Valbruna S.p.A.

35100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
Telefono 0444.963211 - 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. MEST108480 / 2022 /  
Prüfung/Tau/Essai

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

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

Produttore:  
Hersteller/Usino productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 207009561 RELIANCE  
Bestell  
Your order  
Commande

Tipo di Elaborazione: E+AOD  
Erschmelzungsart  
Melting process  
Mode de fabrication

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



Conferma ordine nr: EI22007851  
Werk/Our Order/Ref nr.

Qualità: 316/316L  
Werkstoff/Grade/Nuance

Punzone del Collaudatore:  
Stempel des Werkssachverständigen  
Inspector's stamp/Plaqueon de l'assayeur

MR

Avviso di Spedizione: D-V/22026212  
Lieferanzeige/Packing list/B.L.

Marca: APML  
Markenbezeichnung  
Brand / Nuance

Punzonatura: 316/316L  
Kornzeichnung  
Marking  
Wardillage

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.

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

Vicenza, 24/10/2022

Direzione Qualità  
Quality Management/Quality Management/Gestion Qualité

Direzione Prodotto  
Produktmanagement/Product Management/Director Product

Pagina  
3 di 3

VCCQ052 - MEST108480

R. BERTELLI

P. MESSORI