



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 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. MEST003215 / 2022 /  
 Prufung/Test/Essai

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 stato  
 Etat de livraison

Produttore :  
 Hersteller/Hersteller/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  
 Trade marks  
 Sigles de l'usine productrice



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

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI22006065  
 Lieferanzeige/Packing list/B.L.

Marca: APML  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

SPECIFICHE :	Note:
Anforderungen / Requirements / Exigences	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 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) <b>ASTM A479 2021 S31600/03 A</b> MIL-S-862 B/1 316/316L NACE MR0103 2015 S31600/03 A (8) <b>NACE MR0175 2015 S31600/03 A (9)</b> 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

P.O.#: **P124521**  
 R#: **R173725**  
 ITEM#: **521534**  
 HEAT#: **287395**  
 BRANCH#: **875**

Tolleranza: ASTM A484-20B TABLE 3  
 Toleranz/Allowance/Tolerance

Pos. nr.	Oggetto	Dimensioni - in	Lunghezza - in	Colata	Pezzi	Peso - LB	Lotto nr.
Pos. nr. Item nr. Nr. de poste	Oggetto/and Process description Descr. du produit	Abmessungen Dimension Dimension	Longe Length Longueur	Schmelze Heat Coulée	Stückzahl Pieces Pièces	Gewicht Weight Poids	Losnr. Lot nr. Lot nr.
0080	Round	<b>13,0000</b>	141/ 141	287395		5.454	125614580

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

Vicenza, 03/03/2022 VQC052 - MEST003215	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualita <b>R.BERTELLI</b>	Direzione Prodotto Produktmanagement/Product Management/Direction Produit <b>P.MESSORI</b>	Pagina 1 di 3
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5/26



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 Telefono 0444.988211 - Fax 0444.983838  
 Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37  
 Telefono 0471.824111 - Fax 0471.824497

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In conformità a: EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1  
 Nach/According to/Sehen

Certificato nr: MEST003215 / 2022 /  
 Prüfung/Test/Essen

Cliente / Besteller/Purchaser/Client  
**VALBRUNA CANADA LTD**  
 8724 HOLGATE CRESCENT  
 L5T 6Z1 - MILTON, ONT L5T 5Z1 - CA

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

Produttore:  
 Hersteller/Usine productrice

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

Ordine nr: 112009227 RELIANCE PROGRA  
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 Your order  
 Commande

Tipo di Elaborazione: E+A0D  
 Erzeugnisart  
 Melting process  
 Mode d'elaboration

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



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

Qualità: 316/316L  
 Werkstoff/Grade/Ruance

Punzone del Collaudatore:  
 Stempel des Werkssachverständigen  
 Inspector's stamp/Pointon de l'essayeur



Avviso di Spedizione: D-VI22006065  
 Lieferanzeige/Packing list/B.L.

Marca: APML  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
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 Marquage

TEST ALLO STATO DI FORNITURA										
Test on delivery condition Prüfung auf lieferbarem Produkt test a l'état de fourniture Prueba sobre el material así como entregado										
TEST	Provetta / Probe Specimen/Eprouvette Leg. diam. Spst. Brille Diam. Dgite Weld Diam. Thickness Leg. diam. appal. mm	°F	Poste. Spoggin Postage Lorsort Endowment h.	Snervamento Abregeance Yield Stress Limite elastique Rp 0,2% h.k.A.	Snervamento Stressgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Resistenza a trazione Rm h.k.A.	Allungamento Buehdehnung Elongation Allongement E 4d %	Strizione Bruchdehnung Rupture of test Eustion RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti Anforderungen/required values Valeurs demandées	min			30	-	75	-	40	-	140
	max					115		50		223
A	12,5	68	L	39		81	55	74		165

TEST ALLO STATO DI FORNITURA			
Test on delivery condition / Prüfung auf lieferbarem 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 / Heat Schmelze/Couloir	min - max	0,030	1,00	1,25 2,00	16,00 18,00	2,00 3,00	10,00 14,00	0,020 0,030	0,100		
287395	C %	SI %	Mn %	Cr %	Mo %	Cu %	NI %	Co %	P %	S %	N %
	0,018	0,39	1,72	16,73	2,04	0,59	10,03	0,176	0,027	0,025	0,090

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 = 4,7 : 1  
 Material annealed 1976°F for 8 h /water cooled.  
 Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste Die gestellten Anforderungen sind lt. Anlage erfüllt The material has been furnished in accordance with the requirements Le matériel a été trouvé conforme aux exigences	Controllo antimiscelazione con tecnica XRF/OES portatile: OK Verwachsungsprüfung durch XRF/OES Gerät geführt. Antifaking testing performed with XRF/OES portable: OK Contrôle antimélange avt 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 dimensionnel; satisfaisant
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QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 03/03/2022 VCC052 - MEST003215	Direzione Qualità Quality Management/Quality Management/Qualität R. BERTELLI	Direzione Prodotto Product Management/Product Management/Direction Produit P. MESSORI	Pagina 2 di 3



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Erschmelzungsart  
Melting process  
Méthode d'elaboration

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Zeichen des Lieferwerkes  
Trade marks  
Sigles de l'usine productrice



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Stempel des Werkssachverständigen  
Inspector's stamp/Pointon de l'essayeur

MR

Avviso di Spedizione: D-V122008065  
Lieferanzalge/Packing list/V.L.

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, chapl.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 : 2016, AS 9100D

Vicenza, 03/03/2022  
VCQ052 - MEST003215

Direzione Qualità  
Quality Management/Quality Management/Direction Qualité  
R.BERTELLI

Direzione Prodotto  
Produktmanagement/Product Management/Direction Produit  
P.MESSORI

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