

C299537



# 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. MEST754323 / 2021 /  
 Prüfung/Test/Essai

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

Stato di fornitura : Hot rolled Polished Annealed  
 Lieferzustand Peeled  
 Delivery state  
 Etat de livraison

Produttore :  
 Hersteller/Hersteller/Usine productrice

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

Ordine nr: 106008774 Stock - Canada  
 Bestell Your order  
 Commande

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

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



Conferma ordine nr: EI21006911  
 Werks/Our Order/Ref nr.

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

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

MR

Avviso di Spedizione: D-BZ21 005287  
 Lieferanzeige/Packing list/B.L.

Marca: **MVAPML ( MAXIVAL )**  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

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

Tolleranza: ASTM A484-20B TABLE 7

Pos. nr. Pos. nr. Item nr. No. de poste	Oggetto Object Product description Design. du produit	Tolleranza/Allowance/Tolerance						Lotto nr. Lott. Lot nr. Lot nr.
		Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Casting	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids		
0090	Round	<b>2,2500</b>	153/ 156	<b>285501</b>		4.564	106411940	

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

Vicenza, <b>08/06/2021</b> VCQ052 - MEST754323	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
---	--	--	------------------

ANS

C299537



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 Telefono 0444.988211 - 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. MEST754323 / 2021 /  
 Prüfung/Test/Essai

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

Stato di fornitura: Hot rolled Polished Annealed  
 Lieferzustand: Peeled  
 Delivery state:  
 Etat de livraison:

Produttore:  
 Hersteller/Item/Usine productrice

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

Ordine nr: 106008774 Stock - Canada

Tipo di Elaborazione: E+AOD  
 Erweichungsart: Maiting process  
 Mode d'elaboration:

Marchi di Fabbrica:  
 Zeichen des Lieferwerkes  
 Trade marks  
 Sigles de Usine productrice



Bestell  
 Your order  
 Commande

Conferma ordine nr: EI21006911  
 Works/Our Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-BZ21005287  
 Lieferanzeige/Packing list/D.L.

Marca: MVAPML ( MAXIVAL )  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

### 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 Specimen/Eprouvette Larg. diam. Spinn. Stab. Diam. Dicke Wahl. Diam. Thickness Larg. diam. épais mm	°F	Posiz. Saggio Position Lageort Position	Snervamento Strawigkeit Yield Stress Limite élastique Rp 0,2% k.s.l.	Snervamento Strawigkeit Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %		Strizione Erweichung Reduction of area Striction RA %		Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
							min	max	min	max		
Valori richiesti Anforderungen/Required values Valeurs demandées				30	-	75 115	-	40	-	50	-	140 223
A	12,5	68	L	40		87		53		73		183

### 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		6

Mechanical properties according to ASTM A370.

### Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata / Heat Schmelze/Couée	min - max	1,25 2,00	16,50 18,00	2,00 3,00	1,00	10,00 14,00	0,040	0,020 0,030	0,100	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %		
285501	0,018	0,50	1,53	16,64	2,01	0,44	10,02	0,171	0,032	0,028	0,061		

### 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 = 11,9 : 1  
 Material annealed 1940°F for 1.5h/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  
 Verwechslungsprüfung: durch XRF/OES Gerät gefñhrt.  
 Antidmixing testing performed with XRF/OES portable : OK  
 Contrôle antimélange svr technique XRF/OES portable : OK

Controllo visivo e dimensionale: soddisfa le esigenze  
 Beschligung und Ausmessung: ohne Beanstandung  
 Visual inspection and dimensional check: 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, 08/06/2021  
 V00052 - MEST754323

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

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

Pagina  
 2 di 3



C299537



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 Telefono 0444.988211 - Fax 0444.963838  
 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. **MEST754323 / 2021 /**

Nach/According to/Selon

Prüfung/Test/Essai

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

Stato di fornitura: **Hot rolled Polished Annealed**  
 Lieferzustand: **Peeled**  
 Delivery state:  
 Etat de livraison:

Produttore:  
 Hersteller/Item/Usine productrice

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

Ordine nr: **106008774 Stock - Canada**  
 Bestell: **106008774**  
 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: **EI21006911**  
 Werks/Our Order/Ref nr.

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

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

**MR**

Avviso di Spedizione: **D-BZ21005287**  
 Lieferanzettel/Packing list/B.L.

Marca: **MVAPML ( MAXIVAL )**  
 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.  
 Maxival 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, **08/06/2021**  
 VCC052 - MEST754323

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

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

Pagina  
 3 di 3