



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 Telefono 0444.969211 - 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. MEST742973 / 2021 /  
 Prüfung/Test/Vissa:

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  
 Etal de livraison

Produttore:  
 Hersteller/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 105008747 RELIANCE PROGRA  
 Bestell:  
 Your order  
 Commande

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

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



Conferma ordine nr. EI21006255  
 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-VI21012802  
 Licenzierungs/Packing list/B.L.

Marca: APML  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

### SPECIFICHE:

Note:

Anforderungen / Requirements / Exigences

Anforderungen / 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)  
 ASME SA193 2019 B8M CLASS 1 (1)  
 ASME SA276 2019 S31600/03 A (2)  
 ASME SA320 2019 B8M CLASS 1 CLASS1 (3)  
 ASME SA479 2019 S31600/03 A (4)  
 ASTM A182 2020 S31600/03 A (5)  
 ASTM A193 2019 B8M CLASS 1  
 ASTM A262 PR. E 2C15 316/316L  
 ASTM A276 2017 S31600/03 A  
 ASTM A314 2019 S31600/03  
 ASTM A320 2016 B8M CLASS 1 CLASS1  
 ASTM A370 2020 (6)  
 ASTM A473 2019 S31600/03 (7)  
 ASTM A479 2020 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 2019 EDITION For products machined directly from bar refer to ASME SA479.  
 (1)Section II Part A 2019 EDITION  
 (2)Section II Part A 2019 EDITION  
 (3)Section II Part A 2019 EDITION  
 (4)Section II Part A 2019 EDITION  
 (5)For products machined directly from bar refer also to ASTM A479  
 (6)2019E1  
 (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 A484-20B TABLE 3

Tolleranza/Allowance/Tolérance

Pos. nr. Pos. nr. Nm. Nr. Nr. de poste	Oggetto Gegenstand Product description Description de produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coutée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losn. Lot no. Lote no.
0050	Round	11,0000	137/ 137	285050		3.816	1C3517130

P.O.#: P123370  
 R#: R168706  
 ITEM#: 509382  
 HEAT#: 285050  
 BRANCH#: 875

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

Vicenza, 20/05/2021 VCC052 - MEST742973	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 1 di 3
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8/25/21  
 MS



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8724 HOLTGATE CRESCENT  
L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

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

Produttore:  
Herstellere/Werk/Lusine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 105008747 RELIANCE PROGRA  
Bestell  
Your order  
Commande

Tipo di Elaborazione: E+AOD  
Erschmelzungsart  
Melting process  
Méthode d'élaboration

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



Conferma ordine nr: EI21006255  
Werkst/Our Order/Ref. nr.

Qualità: 316/316L  
Werkst/Our Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21012802  
Lieferanzeiger/Packing list/B.L.

Marca: APM L  
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'état de fourniture / Prueba sobre el material así como entregado

TEST	Prova/Prüfung	°F	Posiz. Saggio	Snervamento	Snervamento	Resistenza	Allungamento		Strizione		Resilienza	Durezza
	System/Provette						Bruchdehnung	Elongation	Einziehung	Impact Value		
	Large Diam. Spec.		mm	Yield Stress	Yield Stress	Rm	E 4d	%	RA	%	HB	
	Weld Diam. Thickness		mm	Rp 0,2%	Limite elastique	Kp 0,1						
	Large Diam. Spec.											
	min			30	-	75	-	40	-	50	-	140
	max					115						223
A	12,5	68	L	37		81	63		73			167

### TEST ALLO STATO DI FORNITURA

TEST	min	max
A Grain size for ASTM E112		4

Mechanical properties according to ASTM A370.

### Analisi chimica

Colata / Heat	mm	1,25	16,50	2,00	10,00	0,020	0,020	0,100				
Schmelze/Coûlée	mm	0,030	1,00	2,00	13,00	3,00	1,00	14,00	0,040	0,030	0,100	
C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %		
285050	0,018	0,43	1,73	16,67	2,02	0,50	10,00	0,142	0,032	0,023	0,089	

### Corrosion test in 15% 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 = 4,6 : 1  
Material annealed 1940°F for 5h/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 matière a été fournie conforme aux exigences

Controllo antimiscelanza con tecnica XRF/OES portatile : OK  
Verwechslungsprüfung durch XRF/OES Gerät gelüht.  
Antimixing testing performed with XRF/OES portable : OK  
Contrôle antimélange svn 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

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

Vicenza, 20/05/2021 VCC052 - MEST742973	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P. MESSORI	Pagina 2 di 3
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Erschmelzungsart  
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Zeichen des Lieferwerkes  
Trade marks  
Sigles de l'usine productrice



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Works/Our Order/Ref. nr.

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

MR

**Avviso di Spedizione:** D-VI21012802  
Lieferanweisung/Packing Instruction

**Marca:** APM L  
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, chap.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.

www.valbruna.com

Provided by: ENCORE METALS DIVISION OF RMCL

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

Vicenza, 20/05/2021  
VCC0052 - MEST742973

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

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

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