



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 Telefono 0444.988211 - 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**  
 Nach/According to/Selon: **EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1**

Certificato nr. **MEST777744 / 2021 /**  
 Prüfung/Test/Essai:

Cliente / Besteller/Purchaser/Cliant  
**VALBRUNA 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/Usine productrice

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

Ordine nr: **106008785 RELIANCE PROGRA**  
 Bestell  
 Your order  
 Commande

Tipo di Elaborazione: **E+AOD**  
 Erzeugungsmethode  
 Making process  
 Mode d'elaboration

Marchi di Fabbrica:  
 Zeichen des Werks/Marken  
 Trade marks  
 Signes de usine productrice



Conferma ordine nr: **EI21007232**  
 Werk/Dur Order/Ref.n.

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

Funzione del Collaudatore:  
 Stempel des Werkstoffverständigen  
 Inspector's stamp/Personnel de l'essayeur

**MR**

Avviso di Spedizione: **D-VI21018218**  
 Lieferanweisung/Packing instr.

Marca: **APML**  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: **316/316L**  
 Kennzeichnung  
 Marking  
 Marquage

SPECIFICHE:	Notes:
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 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 (5)	(5)Chemical analysis only.
ASTM A479 2020 S31600/03 A	
MIL-S-962 B/1 316/316L	
NACE MR0103 2015 S31600/03 A (7)	(7)ANSI/NACE MR0103/ISO 15945 November 23, 2015
NACE MR0175 2015 S31600/03 A (8)	(8)ANSI/NACE MR0175/ISO 15156-3, third edition November 23, 2015
QQ-S-763 F 316/316L A	

**R278334**  
**509318**  
**Load #51767**

Tolleranza: ASTM A484-20B TABLE 3

Pos. nr.	Oggetto	Dimensioni - In	Lunghezza - In	Colata	Pezzi	Peso - LB	Lotto nr.
Part. n. Item no. Nr. de pièce	Objekt Product description Design. description	Abmessungen Dimension Dimension	Länge Length Longueur	Sortiere Grade Grade	Stückzahl Pieces Pièces	Gewicht Weight Poids	Lot Lot Lot
0020	Round	8,5000	231/ 231	286142	1	3,788	113815450

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

Vicenza, <b>15/07/2021</b> VCC052 - MEST777744	Direzione Qualità Quality Management/Quality Management/Direction Qualité <b>R. BERTELLI</b>	Direzione Prodotto Product Management/Product Management/Direction Produit <b>P. MESSORI</b>	Pagina 1 di 3
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*ANS*



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Certificato nr. MEST777744 / 2021 /  
Prüfung/Inspektion

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**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/Hersteller/Produktions

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

Ordine nr: 106008785 RELIANCE PROGRA  
Bestell-  
Your order  
Commande

Tipo di Elaborazione: E+AOD  
Erwärmungsart  
Melting process  
Mode d'élaboration

Marchi di Fabbrica:  
Zeichen des Lieferanten  
Trade marks  
Siglas de fábrica productora



Conferma ordine nr: EI21007232  
Werkz/Odr./Order/Ref. nr.

Qualità: 316/316L  
Werkstoff/Grade/Nuance

Funzione del Collaudatore:  
Stempel des Werksachverständigen  
Inspector's stamp/Personnel de l'essayeur

MFR

Avviso di Spedizione: D-VI21018218  
Lieferanweisung/Packing instr./L.

Marca: APML  
Markenbezeichnung  
Brand / Nuance

Funzionatura: 316/316L  
Kennzeichnung  
Marking  
Marquage

### TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf lieferbarem Produkt / Test à l'état de fourniture / Prueba sobre el material así como entregado

TEST	Provetta/ Process Specimen/Échantillon Ling. diam. 3/8" / Bore diam. 20.0 Ling. diam. 1.000 Ling. diam. 1.000	Ø F	Pozzo/ Saggio Prague Lug	Snervamento		Resistenza		Allungamento		Strizione		Resilienza		Durezza	
				Snervamento Yield Stress Limite d'elasticità Rp 0.2%	Snervamento Yield Stress Limite d'élasticité Rp 0.2%	Resistenza Tensile strength Résistance à traction Rm	Resistenza Tensile strength Résistance à traction Rm	Allungamento Elongation Allongement E 4d	Allungamento Elongation Allongement E 4d	Strizione Elongation Reduction of area Striction RA	Strizione Elongation Reduction of area Striction RA	Resilienza Herschlagarbeit Impact Value Resilience	Resilienza Herschlagarbeit Impact Value Resilience	Durezza Härte Dureté HB	Durezza Härte Dureté HB
Valori richiesti Anforderungen/Requisits/req values Valeurs demandées		m.n.		30	-	75	115	40		50			140	223	
A	12,5	68	L	40		81		58		70					173

### TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf lieferbarem Produkt / Test à 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/Caudo	min - max	0,020 1,00	1,25 2,00	15,50 15,00	2,00 3,00	10,00 16,00	10,00 16,00	0,010 0,030	0,020 0,030	0,100	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %			
286142	0,018	0,31	1,78	16,71	2,04	0,55	10,09	0,153	0,029	0,029	0,084			

### 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 = 7,6 : 1  
Material annealed 1976°F for 5 h/water cooled.  
Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste  
Die gestellten Anforderungen sind in 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 gelüht.  
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

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Vicenza, 15/07/2021 VOC052 - MES777744	Direzione Qualità Quality Management/Qualität R.BERTELLI	Direzione Prodotto Product Management/Produktion P.MESSORI	Pagina 2 di 3
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Zeichen des Lieferanten  
Trade marks  
Signes de l'usine productrice



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Werkstoff-Order/Ref. nr.

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Werkstoff/Grade/Nuance

Punzone del Collaudatore:  
Stempel des Werkstoffversüblers/gen.  
Inspector's stamp/Plaqueon de l'assesseur

MR

Avviso di Spedizione: D-VI21018218  
Lieferanweisung/Packing List/V.L.

Marca: APML  
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Punzonatura: 316/316L  
Kennzeichnung  
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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.

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, 15/07/2021

VCC052 - MEST777744

Direzione Qualità  
Quality Management/Quality Management/Direction Qualité

R. BERTELLI

Direzione Prodotto  
Product Management/Product Management/Direction Produit

P. MESSORI

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