



# Acciaierie Valbruna S.p.A.

39100 VICENZA (Italia) - Viale della scienza, 25 z.i.  
 Telefono 0444.968211 - Fax 0444.963836  
 Stab.: 39100 BCLZANO (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. **MEST655123 / 2020 /**  
 Prüfung/Test/Essai

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

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

Produttore:  
 Hersteller/Usine productrice

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

Ordine nr: **012008377 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: **EI20010774**  
 Werks/Our Order/Ref. nr.

Qualità: **316/316L**  
 Werks-ott/Grade/Nuance

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

**MR**

Avviso di Spedizione: **D-VI20C28046**  
 Lieferanzeige/Packing list/BL

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

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

SPECIFICHE :	Note:
Anforderungen / Requirements / Exigences	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 2019 B8M CLASS 1	
ASTM A262 2015 PRACTICE E	
ASTM A276 2017 S31600/03 A	
ASTM A314 2019 S31600/03	
ASTM A320 2018 B8M CLASS 1 CLASS1	
ASTM A370 2020 (6)	(6)2019E1
ASTM A473 2019 S31600/03 (7)	(7)Chemical analysis only.
ASTM A479 2020 S31600/03 A	
MIL-S-862 B/1 316/316L	
NACE MRC103 2015 S31600/03 A (8)	(8)ANSI/NACE MR0103/ISO 17945 November 23, 2015
NACE MRC175 2015 S31600/03 A (9)	(9)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015
QQ-S-763 F 316/316L A	

Tolleranza: ASTM A484-20B TABLE 3

Pos. nr.	Oggetto	Tolleranza/AIlowance/Tolerance		Lunghezza - In	Colata	Pezzi	Peso - LB	Lotto nr.
		Dimensioni - In	Abmessungen Dimension					
0030	Round	5,0000		121/ 121	432688	1	683	933203430

**P.O.#:** PI23856

**R#:** R170460

**ITEM#:** 509364

**HEAT#:** 432688

**BRANCH#:** 875

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

Vicenza, <b>15/12/2020</b> VCO052 - MEST655123	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
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Provided by CPA

www.flowconditioner.com,info@cpacl.ca



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VALBRUNA CANADA LTD  
8724 HOLGATE CRESCENT  
L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

Stato di fornitura: Hot rolled - Annealed Peeled  
Lieferzustand  
Delvery state  
Etat de livraison

Produttore:  
Hersteller/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 012008377 RELIANCE PROGRA

Bestell  
Your order  
Commande

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

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



Conferma ordine nr: EI20010774

Weicks/Our Order/Ref. nr.

Qualità: 316/316L  
Werkstoff/Grade/Nuance

Punzone del Collaudatore:  
Stempe des Werksachverständigen  
Inspector's stamp/Poinçon de l'essayeur

MR

Avviso di Spedizione: D-VI20028046

Lieferanzeige/Packing list/B.L.

Marca: MVAPML (MAXIVAL)  
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'etat de fourniture / Prueba sobre el materia, así como entregado

TEST	Provetta/ Probe Spezimen/Épreuve Lag diam. Spess. Bohle Diam. Dicke Wich Diam. Thickness Lag. diam. épais	Posto. Esggio Position Erdschneid	Sneramento Streckgrenze Yield Stress Limite élastique Rp 0,2% k.s.l.	Sneramento Streckgrenze Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm kN/mm <sup>2</sup>	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Zugdehnung Reduction of area Surtirage %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB				
										Valori richiesti Anforderungen/Required values Valeurs demandées	min	max	30
A	12,5	68	L	37	83	59	73			170			

### 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		4

Mechanical properties according to ASTM A370.

### Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique												
Colata / Heat Schmelze/Coulee	min	max	1,25	16,50	2,00	10,00	0,020	0,020	0,020	0,030	0,100	
	0,030	1,00	2,00	18,00	3,00	1,00	14,00	0,040	0,030	0,100		
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
432688	0,021	0,59	1,78	16,74	2,06	0,45	10,13	0,075	0,030	0,029	0,075	

### 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 = 19,3 : 1  
Material annealed 1940°F for 2.5h/water cooled.  
Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste  
Die gestellten Anforderungen sind 1. Anlago erfüllt  
The matena has been furnished in accordance with the requirements  
Le matériel a été trouvé conforme aux exigences

Controllo antimiscelanza con tecnica XRF/OES portatile: OK  
Verwechslungserkennung durch XRF/OES Gerät geführt.  
Antimixing testing performed with XRF/OES portable OK  
Contrôle entremélange svz technique XRF/OES portable OK

Controllo visivo e dimensionale: soddisfa le esigenze  
Besichtigung und Ausmessung: ohne Beanstandung  
Visual inspection and 3 dimensional checks satisfactory  
Contrôle visuel et dimensionnel: satisfaisant

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Vicenza, 15/12/2020  
VCC052 - MEST655123

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

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

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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, 15/12/2020  
VCQ052 - MEST655123

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Quality Management/Quality Management/Direction Qualité  
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Direzione Prodotto  
Product Management/Product Management/Direction Produit  
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