





# 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. MEST249606 / 2018 /  
 Prüfung/Fessöl

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

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

Produttore:  
 Hersteller/Item/Usine producer

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

Ordine nr: 802006870 Replacement sto  
 Bestell / Your order / Commande

Tipo di Elaborazione: E+AOO  
 Erhitzungsart: Heating process: Mode d'elaboration

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



Conferma ordine nr: E118002298  
 Works/Our Order/Ref nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI18014535  
 Lieferanzelager/Packing to/UB.L.

Marca: APML  
 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 asi como entregado

TEST	Prova/ Probe Specimen/Éprouvette Leg. diam. Specs. Bore Diam. Dicks Widh. diam. Thickness Leg. diam. apps mm	°F	Posiz. Saggio Position Lieu Endreueum tr	Sneramento Streckgrenze Yield Stress Limite elastique Rp 0,2% K.s.l.	Sneramento Streckgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm K.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %		Strizione Einschränkung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
							min	max			
Valori richiesti Anforderungen/Required values Valeurs demandées		min max		30	-	75 115	-	40	-	50	140 223
A	12,5	68 L		39		83		58		73	165

### TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf lieferbarem produkt / Test a l'etat de fourniture / Prueba sobre el material asi 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 2,00	16,50 18,50	2,00 3,00	1,00	10,00 14,00	0,020 0,030	0,100	0,020 0,030	0,100	
	C %	Si %	Mn %	C %	Mo %	Cu %	Ni %	Co %	P %	S %	N %
277051	0,012	0,27	1,75	16,87	2,08	0,48	0,02	0,124	0,032	0,023	0,076

### 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  
 Annealing temperature : 1940° F for 4 h/water.  
 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 antimescolanza: OK  
 Verwechslungsprüfung: spektralanalytisch durchgeführt  
 Antimixing testing performed: OK  
 Contrôle antimélange fait: s.c.s.

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

Vicenza, 18/05/18  
 VCC008 - MEST249606  
 (Mod. MCE2)

Il collaudatore di stabilimento / der Werkstoffverständige / Works Inspector / L'agent d'usine

M. RIZZOTTO

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 Erhmelzungsart  
 Melting process  
 Mode d'elaboration

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



Conferma ordine nr: E118002298  
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 Stempel des Werksachverständigen  
 Inspector's stamp/Pointon de l'essayeur

MR

Avviso di Spedizione: D-VI18014535  
 Lieferanzeige/Packing list/B.L.

Marca: APLM  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

Melted 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 through Portal System when it leaves the production plant.

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

The Quality Management System is Certified according to Pressure Equipment Directive [97/23/EC] Annex 1, s. 4.3 and 2014/68/EU by TUEV 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.

Vicenza, 18/05/18

VCC008 - MEST249606

(Mod. MCE2) WSP/21/2012/1/10/01/0001/01/2013/02/01

Il collaudatore di stabilimento / der Werkssachverständige / Works inspector / L'agent d'usine

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