



# 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. MEST217625 / 2018 /  
 Prüfung/Test/Essai

Cliente / Besteller/Purchaser/Cliant  
 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/Werk/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 802006872 STOCK REPLACEME  
 Bestell  
 Your order  
 Commande

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

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



Conferma ordine nr. El18002458  
 Werk/Our Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI18007741  
 Lieferanzeige/Packing list/B.L.

Marca: APLM  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

SPECIFICHE :	Note:
Anforderungen / Requirements / Exigences	Aufzeichnungen / Notes / Notes
VSI 0 316/316L A	
AISI 316/316L	
AMS 5648 M S31600 A	
AMS 5653 H S31603 A	
AMS-QQ-S-763 D 316/316L A	
ASME SA182 2015 S31600/03 A (0)	(0)SECTION II PT.A 2015 EDITION For products machined directly from bar refer to ASME SA478.
ASME SA193 2015 B8M CLASS 1 (1)	(1)SECTION II PT.A 2015 EDITION
ASME SA276 2015 S31600/03 A (2)	(2)SECTION II PT.A 2015 EDITION
ASME SA320 2015 B8M CLASS1 (3)	(3)SECTION II PT.A 2015 EDITION
ASME SA479 2015 S31600/03 A (4)	(4)SECTION II PT.A 2015 EDITION
ASTM A182 2016 S31600/03 A (5)	(5)For products machined directly from bar refer also to ASTM A478.
ASTM A193 2016 B8M CLASS 1	
ASTM A262 2015 PRACTICE E	
ASTM A276 2017 S31600/03 A	
ASTM A314 2015 S31600/03	
ASTM A320 2017A B8M CLASS1	
ASTM A370 2017 .	
ASTM A473 2001 S31600/03 (6)	(6)Chemical analysis only.
ASTM A479 2017 S31600/03 A	
MIL-S-862 B/1 316/316L	
NACE MR0103 2015 S31600/03 A (7)	(7)ANSI/NACE MR0103/ISO 17645 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	

Tolleranza: ASTM A484-16 TABLE 3

Tolerance/Absorvance/Tolerance

Pos. nr.	Oggetto	Dimensioni - in	Lunghezza - in	Colata	Pezzi	Peso - LB	Lotto nr.
Pos. nr. Item nr. Nr. de poste	Gegenstand Product description Description du produit	Abmessungen Dimension Dimension	Länge Length Longueur	Bohmize Heat Casse	Stückzahl Pieces Pieces	Gewicht Weight Poids	Losnr. Lot nr. Lot nr.
0070	Round	8,500C	216/ 229	275264		7.539	723405130

P.O.#: P119424  
 R#: R154153  
 ITEM#: 509378  
 HEAT#: 275264  
 BRANCH#: 875

Vicenza, 13/03/18  
 VCC008 - MEST217625  
 (Mod. MCE2)

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

M. RIZZOTTO

Pagina - 1 di 3

ANS



## CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1

Certificato nr. MEST217625 / 2018 /  
 Prüfung/Test/Essai:

Cliente / Besteller/Purchaser/Client  
**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/Werk/Usine productrice

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

Ordine nr. 802006872 STOCK REPLACEME  
 Bestell.  
 Your order  
 Commande

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

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



Conferma ordine nr. EM18002458  
 Werk/Our Order/Ref nr

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI18007741  
 Lieferanzugabe/Packing List/B.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 à l'état de fourniture / Prueba sobre el material así como entregado											
1) Längsrichtungsfähig, Transversalfähig, Querschnittsfähig											
TEST	Provetta / Probe Specimen/Epruvette Leg diam. Spéc. Schaft Diam. Schaft Weld Diam. Thickness Leg diam. spec. mm	Ø F	Posiz. Saggio Position Lageort Emplacement	Snervamento Streckgrenze Yield Stress Limite d'élasticité Rp 0,2% k.s.l.	Snervamento Streckgrenze Yield Stress Limite d'élasticité	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB	
Valori richiesti Anforderungen/Required values Valeurs demandées		min max		30	-	75 115	- 40	- 50	-	140 223	
A	12,5	68 L		37		81	57	69		174	

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 / Afloat Schmelze/Coulée	min - max	0,030	1,00	1,25 2,00	16,50 18,00	2,00 3,00	1,00	10,00 14,00	-	0,020 0,030	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %			
275264	0,020	0,29	1,75	16,64	2,01	0,51	10,09	0,122	0,029	0,030	0,077			

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 erfüllt  
 The material has been furnished in accordance with the requirements  
 Le matériel a été trouvé conforme aux exigences

Controllo antimiscelanza: OK  
 Verwechslungsprüfung spezialanalytisch durchgeführt  
 Anmischungstest performed: OK  
 Contrôle antimélange fait: r.a.s.

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



**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

Certificato nr. **MEST217625 / 2018 /**  
Prüfung/Teau/Essai

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

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

Produttore:  
Hersteller/Item/Usine productrice

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

Ordine nr: **802006872 STOCK REPLACEME**  
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: **E118002458**  
Werkz./Our Order/Ref. nr.

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

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

**MR**

Avviso di Spedizione: **D-VI18007741**  
Lieferanzeige/Packing list/B.L.

Marca: **APML**  
Markenbezeichnung  
 Brand / Nuance

Punzonatura: **316/316L**  
Kenntzeichnung  
 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 : 2008, IATF 16949 : 2016, AS 9100C**

The Quality Management System is Certified acc. 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.