



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza 25 z.l.  
 Telefono 0444.968211 - Fax 0444.963836  
 Stab. 39100 BOLZANO (Italia) - V. 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

Certificato nr. MEST868523 / 2022 /  
 Prüfung/Tes/Essai

Cliente / Besteller/Purchase/Client  
 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/Werks/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 111009149 RELIANCE PROGRA  
 Bestell  
 Your order  
 Commande

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

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



Conferma ordine nr: EI21015024  
 Werks/Our Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

Punzone del Collaudo:  
 Stempel des Werksabnehmer/Stamp gen  
 Inspector's stamp/Pointon de l'essayeur

MR

Avviso di Spedizione: D-VI2200\*450  
 Lieferanzeige/Packing list/B.L.

Marca: APLM  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

### SPECIFICHE

Anforderungen / Requirements / Exigences

Note

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)  
 ASME SA193 2021 B8M CLASS 1 (1)  
 ASME SA276 2021 S31600/03 A (2)  
 ASME SA320 2021 B8M CLASS 1 CLASS1 (3)  
 ASME SA479 2021 S31600/03 A (4)  
 ASTM A182 2021 S31600/03 A (5)  
 ASTM A193 2020 B8M CLASS 1  
 ASTM A262 PR. E 2015 316/316L (6)  
 ASTM A276 2017 S31600/03 A  
 ASTM A314 2019 S31600/03  
 ASTM A320 2018 B8M CLASS 1 CLASS1  
 ASTM A370 2021  
 ASTM A473 2021 S31600/03 (7)  
 ASTM A479 2021 S31600/03 A  
 MIL-S-862 B/1 316/316L  
 NACE MRC103 2015 S31600/03 A (8)  
 NACE MRC175 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 2021 EDITION

(2)Section II Part A 2021 EDITION

(3)Section II Part A 2021 EDITION

(4)Section II Part A 2021 EDITION

(5)For products machined directly from bar refer also to ASTM A479.

(6)Reapproved 2021

(7)Chemical analysis only.

(8)ANSI/NACE MR0103:ISO 17945 November 23, 2015

(9)ANSI/NACE MR0175:ISO 15166-3, third edition November 23,2015

P.O.#: P123988  
 R#: R172312  
 ITEM#: 521534  
 HEAT#: 287123  
 BRANCH#: 875

Tolleranza: ASTM A484-208 TABLE 3

Pos. nr. Pos. nr. Item nr. Nr. de pozii	Oggetto Gegenstand Product description Descrip. de produsit	Tolleranza/Allowance/Tolerance		Lunghezza - ln Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stücke Pieces Pièces	Peso - LS Gewicht Weight Poids	Lotto nr. Losn. Lot nr. Lot no
		Dimensioni - in Abmessungen Dimension Dimension						
0040	Round	13.0000		147/ 147	287123		5 677	129116300

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

Vicenza, 18/01/2022 VCO052 - MEST868523	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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Provided by CPA

www.flowconditioner.com,info@cpacl.ca

3/17/02



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Certificato nr. MEST868523 / 2022 /  
 Prüfling/Test/Essai

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  
 Etat de livraison

Produttore:  
 Hersteller/Hersteller/Usine productrice

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

Ordine nr. 111009149 RELIANCE PROGRA  
 Bestell / Your order / Commande

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

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



Conferma ordine nr. EI21015024  
 Vertrags-/Our Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI22001450  
 Lieferanzeige/Packing list/B.L.

Marca: APLM  
 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/ Probe/Loi Section/Éprouvette Larg. diam. Spess. Brak. Diam. Dicke Wahl. Diam. Thickness Larg. diam. épaisseur	Posiz. Saggi/ Position/ Location/ Emplacement	Snervamento/ Streckgrenze Yield Stress Limite élastique Rp 0,2% k.s.l.	Snervamento/ Streckgrenze Yield Stress Limite élastique	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/ Kerschlagarbeit Impact Value Resilience	Durezza/ Härte Hardness HB	
Valori richiesti/ Anforderungen/Required values/ Valeurs demandées		min max	30	-	75 115	- 40	- 50	-	-	140 223
A	12,5	68 L	39		81	59	77			166

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											
Coletta / Heat / Schmelze/Coulole	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %
287123	0,016	0,39	1,74	16,61	2,07	0,55	10,09	0,152	0,029	0,024	0,099

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 = 4,7 : 1  
 Material annealed 1976°F for 7 h /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 matériel a été trouvé conforme aux exigences	Controllo antimiscelanza con tecnica XRF/OES portatile: OK Verwechslungsprüfung durch XRF/OES Gerät gefolgt. Antimixing testing performed with XRF/OES portable: OK Contrôle antimélange svr technique XRF/OES portable: OK	Controllo visivo dimensionale: soddisfatta le esigenze Besichtigung und Ausmessung: ohne Beanstandung Visual inspection and dimensional checks: satisfactory Contrôle visuel et dimensions: satisfaisant
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QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 18/01/2022 VCC052 - MEST868523	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Création Produit P. MESSIONI	Pagina 2 di 3



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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: 11'009149 RELIANCE PROGRA  
Bestell  
Your order  
Commande

Tipo di Elaborazione: E+ADD  
Erschmelzungsort  
Melting process  
Mode d'elaboration

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



Conferma ordine nr: EI2'015C24  
Werks/Our Order/Ref nr

Qualità: 316/316L  
Werkstoff/Grade/Vuence

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

MR

Avviso di Spedizione: D-VI22001450  
Lieferanzeige/Packing list/B.L.

Marca: APML  
Markenbezeichnung  
Brand / Nuence

Punzonatura: 316/316L  
Kenntzeichnung  
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, 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, 18/01/2022  
VCQ052 - MEST868523

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

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

Pagina  
3 di 3