



# Acciaierie Valbruna S.p.A.

36° 00' V. CENZA (Italia) - Viale della scienza, 26 z.  
Telefono 0444.868211 - Fax 0444.853836  
Stab., 39103 BOLZANO (Italia) - V. A. Volta, 4/37  
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## CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

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

Certificato nr. MEST879709 / 2022 /  
Prüfung/Assessment

Cliente / Esseller/Purchaser/Cliënt  
VALBRUNA CANADA LTD  
8724 HOLGATE CRESCENT  
L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

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

Produttore:  
Hersteller/Hersteller/Le producteur

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 112009227 RELIANCE PROGRA  
Bestell/  
Your order  
Commande

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

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



Conferma ordine nr: EI21016478  
Werk/Dur Order/Ref. nr.

Qualità: 316/316L  
Werkstoff/Grade/Qualité

Punzone del Collaudatore:  
Stempel des Werkstoffüberprüfers  
Inspector's stamp/Emplacement de l'inspecteur

MR

Avviso di Spedizione: D-VI22003297  
Lieferanweisung/Packing Instruk.

Marca: APMIL  
Markenbezeichnung  
Brand / Nuance

Punzonatura: 316/316L  
Kennzeichnung  
Marking  
Marquage

### SPECIFICHE :

Anforderungen / Requirements / Exigences

Notes

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 2021 S31600/03 A (C)  
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 MR0103 2015 S31600/03 A (8)  
NACE MR0175 2015 S31600/03 A (9)  
QQ-S-763 F 316/316L A

(0)Section II Part A 2021 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 15948 November 23, 2015

(9)ANSI/NACE MR0175/ISO 15156-3, third edition November 23, 2015

P.O.#: P124380  
R#: R172937  
ITEM#: S09378  
HEAT#: 286973  
BRANCH#: 875

Tolleranza: ASTM A484-20B TABLE 3

Toleranz/Allowance/Tolérance

Pos. nr. Part no. No. de pièce	Oggetto Component Product description Design. de produit	Dimension - In		Lunghezza - In Length Longueur	Colata Serrata Heat Coulée	Pezzi Stocks Pieces	Peso - LB Gewicht Weight Poids	Lotto nr. Lot no. Lot.
		Abmessungen Dimensions Dimension	Abmessungen Dimensions Dimension					
0060	Round	8,5000		218 / 218	286973		3,583	120015030

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

Vicenza, 04/02/2022 VQC082 - MEST879709	Direzione Qualità Qualitätsmanagement/Quality Management/Direction Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 1 di 3
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4/13



# Acciaierie Valbruna S.p.A.

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Stab. 39100 BOLZANO (Italia) - Via A. Volta, 4/37  
Telefono 0471.924111 - Fax 0471.924497

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In conformità a: EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1  
Nach/According to/Selon

Certificato nr. MEST879709 / 2022 /  
Prüf./ing./Test/Exai

Cliente / Besteller/Purchaser/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/Werk/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 112009227 RELIANCE PROGRA  
Bestell-/  
Your order/  
Commande

Tipo di Elaborazione: E+ADD  
Erstellungszustand/  
Milling process/  
Mode d'elaboration

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



Conferma ordine nr.: EI21016478  
Werk-/Our Order/Ref. nr.

Qualità: 316/316L  
Werkstoff/Grade/Alliance

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

MR

Avviso di Spedizione: D-VI22003297  
Lieferzeit/Routing/Exp. list

Marcia: APMIL  
Markenbezeichnung/  
Brand / Marque

Punzonatura: 316/316L  
Kennzeichnung/  
Marking/  
Marquage

### TEST ALLO STATO DI FORNITURA

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

TEST	Prova/Type Spezial-/Eigenschaft Leistung/Spez. Qualität/Qual. Werkstoff/Grade Werkstoff/Grade	°F	Posiz. Sample Position	Snervamento Yield Stress Lower yield stress Rp 0,2%	Snervamento Tensile Stress Upper yield stress Rp 0,2%	Resistenza Tensile strength Recovery to a fraction Rm	Allungamento Elongation Elongation Attainment E 4d	Strizione Elongation Reduction of area RA	Resistenza Hardness Rockwell Res. scale	Durezza Hardness Rockwell Quinte HB
A	12,5	68	L	30	39	83	58	72	165	223

### 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 E 112		4

Mechanical properties according to ASTM A370.

### Analisi chimica

Element	Heat	min	max	1,25	1,65	2,00	2,30	2,70	3,00	3,50	4,00	4,50	5,00
C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %			
286973	0,018	0,58	1,69	16,58	2,05	0,68	10,00	0,152	0,029	0,028	0,091		

### 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 = 7.0 : 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 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 gelükt.  
Anti-mixing testing performed with XRF/OES portable: OK  
Contrôle antimélange par technique XRF/OES portable: OK

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

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

Vicenza, 04/02/2022 VQ0052 - MEST879709	Direzione Qualità Qualitätsmanagement/Quality Management/Direction Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 2 di 3
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Certificato nr. MEST879709 / 2022 /

Nach/According to/Selon

Prüfung/Tests/Exami

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8724 HÖLGATE CRESCENT  
L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

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

Produttore:  
Hersteller/Manufacture/Produccion

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 112009227 RELIANCE PROGRA  
Bestell  
Your order  
Commande

Tipo di Elaborazione: E-AOD  
Elschmelzungsart  
Melting process  
Mode d'elaboration

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



Conferma ordine nr: EI21016478  
Werkz/Our Order/Ref nr.

Qualità: 316/316L  
Werkstoff/Grade/Nuance

Punzone del Collaudatore:  
Stempel des Werksschwerständigen  
Inspector's stamp/Colonne de l'essayeur

MR

Avviso di Spedizione: D-VI22003297  
Lieferanzeiße/Packing Iss/B L

Marca: APML  
Markenbezeichnung  
Brand / Nuance

Punzonatura: 3'6/316L  
Kennzeichnung  
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 porta-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.

VERIFIED BY LLOYD'S REGISTER

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

Vicenza, 04/02/2022

Direzione Qualità  
Quality Management/Quality Management/Direction Qualité

Direzione Prodotto  
Product Management/Product Management/Directeur Produit

VCC052 - MEST879709

R.BERTELLI

P.MESSORI

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