



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.i.  
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. MEST805360 / 2021 /  
Prüfung/Test/Essai

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

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

Produttore:  
Hersteller/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 109008975 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 fusine productrice



Conferma ordine nr: EI21011652  
Werks/Our Order/Ref nr.

Qualità: 316/316L  
Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21022618  
Lieferanzeige/Packing list/B.L.

Marca: APML  
Markenbezeichnung  
Brand / Nuance

Punzonatura: 316/316L  
Kannzeichnung  
Marking  
Marquege

### 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)  
ASME SA193 2019 B8M CLASS 1 (1)  
ASME SA276 2019 S31600/03 A (2)  
ASME SA320 2019 B8M CLASS 1 CLASS1 (3)  
ASME SA479 2019 S31600/03 A (4)  
ASTM A182 2021 S31600/03 A (5)  
ASTM A193 2020 B8M CLASS 1  
ASTM A262 PR. E 2015 316/316L  
ASTM A276 2017 S31600/03 A  
ASTM A314 2019 S31600/03  
ASTM A320 2018 B8M CLASS 1 CLASS1  
ASTM A370 2020  
ASTM A473 2019 S31600/03 (6)  
**ASTM A479 2020 S31600/03 A**  
MIL-S-882 B/1 316/316L  
NACE MR0103 2015 S31600/03 A (7)  
**NACE MR0175 2015 S31600/03 A (8)**  
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 2019 EDITION

(2)Section II Part A 2019 EDITION

(3)Section II Part A 2019 EDITION

(4)Section II Part A 2019 EDITION

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

(6)Chemical analysis only.

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

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

Tolleranza: ASTM A484-20B TABLE 3

Tolleranza/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrip. du produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Langueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces	Peso - LB Gewicht Weight Poids	Lotto nr. Losnr. Lot nr. Lot nr.
0040	Round	11,0000	135/ 135	286142		7.443	113815470

P.O.#: P123851  
 R#: R170461  
 ITEM#: 509382  
 HEAT#: 286142  
 BRANCH#: 875

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

Vicenza, 21/09/2021 VCQ052 - MEST805360	Direzione Qualità Quality Management/Qualität Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 1 di 3
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Scanned 11/23/2021

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

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

Produttore:  
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**ACCIAIERIE VALBRUNA S.P.A.**

Ordine nr: 109008975 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: EI21011652  
 Works/Our Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/Variance

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

MR

Avviso di Spedizione: D-VI21022618  
 Lieferanzelge/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 a l'etat de fourniture / Prueba sobre el material asi como entregado										
1) Lieferabdimensio/nangs, Teilrausvorsole/quer, Qe-Tangenziale/nangs/entit										
TEST	Provatia/ Probezahl Speiswert/Prozesszahl Leg. diten Speis. Werkst. Diam. Dicke When Diam. Thickness Leg. diam. speis mm	°F	Postz. Saggio Probungs Loosen Empfohlenwert H	Sneravamento Streckgrenze Yield Stress Limite elastique Rp 0,2% k.s.l.	Sneravamento Streckgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Resistencia a traccion Rm k.s.l.	Alungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
	Valori richiesti/ Anforderung/required values Voraussetzungen	min max		30	-	75 115	- 40	- 50	-	140 223
A	12,5	68 L		39		82	62	73		162

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 Schmelz/Coude	min	-	1,25	16,50	2,00	10,00	-	10,00	-	0,020	-
	max	0,030	1,00	2,00	16,60	3,00	1,00	14,00	-	0,040	0,030
	C %	SI %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %
286142	0,018	0,31	1,78	16,71	2,04	0,55	10,09	0,153	0,029	0,029	0,084

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.  
 Material annealed 1940°F for 5h/water cooled.  
 Reduction ratio = 4,6 : 1  
 Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste Die gestellten Anforderungen sind i Anlage 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 geföhrt. Anti-kinking testing performed with XRF/OES portable : OK Conférite anti-mélange svr technique XRF/OES portable : OK	Controllo visivo e dimensionale: soddisfata le esigenze Besichtigung und Ausmessung: ohne Beanstandung Visual inspection and dimensional checks:satisfactory Contrôle visuel et dimension: satisfaisant
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QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 21/09/2021 VCG062 - MEST805360	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direktion Produkt P.MESSORI	Pagina 2 di 3



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Mode d'elaboration

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Zeichen des Lieferwerkes  
Trade marks  
Stiles de l'usine productrice



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MR

Avviso di Spedizione: D-VI21022618  
Lieferanzgeber/Packing list/V.B.L.

Marca: APML  
Markenbezeichnung  
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Punzonatura: 316/316L  
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 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.

VSP/IME/101121/000400/0121-02191A

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

Vicenza, 21/09/2021  
VCCQ052 - MEST805360

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

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

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