



# 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. MEST834861 / 2021 /  
 Prüfung/Test/Essai

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

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

Produttore:  
 Hersteller/Item/Usine productrice

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

Ordine nr: 110009087 Stock - Canada  
 Bestell  
 Your order  
 Commande

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

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



Conferma ordine nr: EI21013696  
 Werks/Our Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21027559  
 Lieferanzeige/Packing list/B.L.

Marca: MVAPML (MAXIVAL)  
 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 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 (6)  
 ASTM A276 2017 S31600/03 A  
 ASTM A314 2019 S31600/03  
 ASTM A320 2018 B8M CLASS 1 CLASS1  
 ASTM A370 2020  
 ASTM A473 2021 S31600/03 (7)  
 ASTM A479 2020 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 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)Reapproved 2021

(7)Chemical analysis only.

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

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

Tolleranza: ASTM A484-20B TABLE 3

Toleranz/Allowance/Tolerance

Pos. nr. Pos. nr. Item no. Nr. da posto	Oggetto Objektstand Product description Objeto, do produto	Dimensioni - In	Lunghezza - In	Colata	Pezzi	Peso - LB	Lotto nr.
		Abmessungen Dimension Dimension	Länge Length Longueur	Schmelze Heat Coulée	Stückzahl Pieces Pièces	Gewicht Weight Poids	Losnr. Lot nr. Lot nr.
0010	Round	5,0000	157/ 158	435056	4	3.556	124310810

P.O.#: PI23925  
 R#: R171255  
 ITEM#: 509364  
 HEAT#: 435056  
 BRANCH#: 875

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

Vicenza, 10/11/2021 VCC052 - MEST834861	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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8724 HOLTGATE CRESCENT  
L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

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

Produttore:  
Hersteller/Hof/Usine producteur

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 110009067 Stock - Canada  
Bestell  
Your order  
Commande

Tipo di Elaborazione: E+AOD  
Ertüchtigungsart  
Milling process  
Mode d'elaboration

Marchi di Fabbrica:  
Zeichen des Lieferanten  
Trade marks  
Siglas de fusine productivo



Confirma ordine nr: EI21013696  
Wicks/Our Order/Ret. nr.

Qualità: 316/316L  
Werkstoff/Grade/Vuance

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

MR

Avviso di Spedizione: D-VI21027559  
Lieferanweisung/Packing list/VBL

Marca: MVAPML (MAXIVAL)  
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 así como entregado

TEST	Prova/Prüfung Specimen/Probestück Long diam. Spess. Brutto Diam. Dicke With Diam. Thickness Lang. diam. épaisseur mm	°F	Posiz. Soglia Position Environnement %	1) L=lunghezza/lelänge, T=trasversale/quer, Q=Tangenziale/tangentiel		Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.l.	Allungamento Bieudehnung Elongation Allongement E 4d %	Strizione Einziehling Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Vickers Dureté HB
				Snervamento Streckgrenze Yield Stress Limite élastique Rp 0,2% k.s.l.	Snervamento Streckgrenze Yield Stress Limite élastique					
Valori richiesti Anforderungen/Required values Valeurs demandées		min		30	-	75	-	40	-	140
		max				115				223
A	12,5	68	L	38		82		63		165

### TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf lieferbarem produkt / Test a l'etat 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 /Heat Schmelze/Cast	min	max	0,030	1,00	1,25	16,50	2,00	10,00	0,020	-	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %			
435056	0,011	0,52	1,66	16,92	2,04	0,59	10,30	0,107	0,029	0,026	0,072			

### 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 = 19,3 : 1  
Material annealed 1976°F for 180'(total time)/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 matériau a été livré conforme aux exigences

Controllo antimiscelanza con tecnica XRF/OES portatile : OK  
Verwechslungsprüfung: durch XRF/OES Gerät geführt.  
Antiliming testing performed with XRF/OES portable : OK  
Contrôle antimélange svr technique XRF/OES portable : OK

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

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Vicenza, 10/11/2021  
VCC052 - MEST834861

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

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

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Sigles de l'usine productrice



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Avviso di Spedizione: D-V/21027559

Lieferanzalge/Packing list/B.L.

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Brand / Nuance

Punzonatura: 316/316L

Kenzeichnung  
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.

Maxival 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.

VCPFORM 0001010400012016MAG00110101

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

Vicenza, 10/11/2021

VCCQ052 - MEST834861

Direzione Qualità  
Qualitätsmanagement/Quality Management/Gestion Qualité

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Direzione Prodotto  
Produktmanagement/Product Management/Direction Produit

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