



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

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

Certificato nr. MEST089531 / 2022 /

Nach/According to/Selon

Prüfung/Test/Essai

Cliente / Besteller/Purchaser/Client  
**VALBRUNA CANADA LTD**  
 8724 HOLGATE 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: 206009514 Stock - Canada  
 Bestell  
 Year 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: EI22006652  
 Werks/Our Order/Ref nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI22022439  
 Lieferanzelge/Packing list/B.L.

Marca: MVAPML ( MAXIVAL )  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

**SPECIFICHE :**

Note:

Anforderungen / Requirements / Exigences

Aufzeichnungen / Notes / Notes

VSI 0/1 316/316L 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 (0)  
 ASME SA193 2021 B8M CLASS 1 (1)  
 ASME SA193 2021 B8M CLASS 1 (2)  
 ASME SA276 2021 S31600/03 A (3)  
 ASME SA320 2021 B8M CLASS 1 (4)  
 ASME SA479 2021 S31600/03 A (5)  
 ASTM A182 2021 S31600/03 A (6)  
 ASTM A193 2020 B8M CLASS 1  
 ASTM A262 PR. E 2015 316/316L (7)  
 ASTM A276 2017 S31600/03 A  
 ASTM A314 2019 S31600/03  
 ASTM A320 2022 B8M CLASS 1 CLASS1  
 ASTM A370 2021 .  
 ASTM A473 2021 S31600/03 (8)  
 ASTM A479 2021 S31600/03 A  
 MIL-S-862 B/1 316/316L  
 NACE MR0103 2015 S31600/03 A (9)  
 NACE MR0175 2015 S31600/03 A (A)  
 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)Section II Part A 2021 EDITION  
 (6)For products machined directly from bar refer also to ASTM A479.  
 (7)Reapproved 2021  
 (8)Chemical analysis only.  
 (9)ANSI/NACE MR0103/ISO 17945 November 23, 2015  
 (A)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015

Tolleranza: ASTM A484-21 TABLE 3

Pos. nr. Pos. Nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrip. du produit	Tolleranza/Allowance/Tolerance		Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losnr. Lot nr. Lot nr.
		Dimensioni - in Abmessungen Dimension Dimension						
0040	Round	6,2500		165/ 170	288838	11	16.321	213210210

**TEST ALLO STATO DI FORNITURA**

TEST	min	max	
A Grain size for ASTM E112			4

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

Vicenza, 12/09/2022 VCC052 - MEST089531	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité <b>R.BERTELLI</b>	Direzione Prodotto Produktmanagement/Product Management/Direction Produit <b>P.MESSORI</b>	Pagina 1 di 3
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 Mode d'elaboration

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Conferma ordine nr: E122006652  
 Werks/Our Order/Ref nr.

Qualità: 316/316L  
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### Test on delivery condition per ASTM A370

TEST	Provetta/ Probe Specimen/Erouvette Larg.diam.Spes. Bread Diam. Disks Width Diam. Thickness Larg. diam. epais mm	°F	Postiz. Saggio Probesage Lootage Emplacement 1)	1) L=longitudinale/längs, T=transversale/quer, Q=Tangenziale/tangentiel		Resistenza Zugfestigkeit Tensile strength Resistance 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		
				Sneramento Streckgrenze Yield Stress Limite élastique Rp 0,2% k.s.l.	Sneramento Streckgrenze Yield Stress Limite élastique							
Valori richiesti		min		30	-	75	-	40	-	50	-	140
Anforderungen/Required values Valeurs demandées		max				115						223
B	12,5	68	L	38		81		61		70		164

Mechanical properties according to ASTM A370.

### Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata /Heat Schmelze/Coulee	min - max	0,030	1,00	1,25 2,00	16,50 18,00	2,00 3,00	- 1,00	10,00 14,00	- -	0,040	0,020 0,030	- 0,100	- -	- -	- -
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %				
288838	0,017	0,50	1,77	16,86	2,00	0,50	10,12	0,143	0,029	0,021	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.  
 Reduction ratio = 11,1 : 1  
 Material annealed 1976°F for 3,5 h /water cooled.  
 ET ACC. TO EN 10088-3 TAB.1  
 UT ACC. TO ASTM A388  
 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 geführt : OK  
 Antimixing testing performed with XRF/OES portable : OK  
 Contrôle antimélange svr technique XRF/OES portable : OK

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

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.

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

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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.

WZP02 1476989CC03344677443-CP007/220

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Vicenza, 12/09/2022  
 VCCQ052 - MEST089531

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

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

Pagina  
 3 di 3