



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.  
 Telefono 0444.966211 - Fax 0444.966236  
 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. MEST653805 / 2020 /  
 Prüfung/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/Fabri/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 012008374 P121796-875 ENC  
 Bestell  
 Your order  
 Commande

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

Marchi di Fabbrica:  
 Zeichen des Lieferwerkes  
 Trade marks  
 Siglas de fusine productrice



Conferma ordine nr: EI20010718  
 Werk/Du: Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

Punzone del Colaudatore:  
 Stempel des Werkstättüberwärtigen  
 Inspector's stamp/Pointeur de l'essayeur

MR

Avviso di Spedizione: D-VI20027844  
 Versandanzeige/Packing list/B.L.

Marca: APM L  
 Markenbezeichnung  
 Brand / Nuance

Funzionatura: 3" 6/316L  
 Kennzeichnung  
 Marking  
 Marquage

### SPECIFICHE :

Anforderungen / Requirements / Exigences

Note:

Anzeichnungen / 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 CLASS\* (3)  
 ASME SA479 2019 S31600/03 A (4)  
 ASTM A182 2020 S31600/03 A (5)  
 ASTM A193 2019 B8M CLASS 1  
 ASTM A262 2015 PRACTICE E  
 ASTM A276 2017 S31600/03 A  
 ASTM A314 2019 S31600/03  
 ASTM A320 2018 B8M CLASS 1 CLASS1  
 ASTM A370 2020 . (6)  
 ASTM A473 2019 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)2019E1

(7)Chemical analysis only.

(8)ANSI/NACE MRC103/ISO 17945 November 23, 2015

(9)ANSI/NACE MRC175/ISO 15156-3, third edition November 23, 2015

PO#: P121796  
 RN: R164007  
 ITEM#: 521534  
 HEAT#: 283799  
 BRANCH#: 875

Tolleranza: ASTM A484-20B TABLE 3

Tolerance/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr. de pozitie	Oggetto Gegenstand Product description Description du produit	Dimensioni - In		Lunghezza - in Länge -länge Longueur	Colata Schmelze Fond Caucho	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Skalaft Poids	Lotto nr. Lohnr. Lotn. Lote
		Abmessungen Dimension Dimension	Dimensioni - In					
0010	Round	13,0000		145/ 145	283799		5.600	127913440

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

Vicenza, 11/12/2020

Direzione Qualità  
 Qualitätsmanagement/Quality Management/Gestaltung Qualität

Direzione Prodotto  
 Produktmanagement/Product Management/Direktion Produkt

VCC052 - MEST653805

R.BERTELLI

P.MESSORI

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 Delivery state:  
 Etat de livraison:

Produttore:  
 Hersteller/Item/Usine productrice

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Ordine nr: 012008374 P:121796-875 ENC  
 Bestell:  
 Your order:  
 Commande

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

Marchi di fabbrica:  
 Zeichen des Lieferwerkes  
 Trade marks  
 Sigles de usine productrice



Conferma ordine nr: EI20010718  
 Werks/Our/Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/nuance

Punzone del Collaudatore:  
 Stempel des Werksschvorständigen  
 Inspector's stamp/Plaque de l'essayeur

MR

Avviso di Spedizione: D-VI20027844  
 Lieferanzge/Packing list/V.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 à l'état de fourniture / Prueba sobre el material así como entregado												
TEST	Provetta/ Probe/ab Essenst. Epreuve/ab Larg. diam. Dicks. Widm. Diam. Thickness Larg. diam. epais	Posiz. Saggio Position Lage	Sneveramento Erweichung Yield Stress Limite élastique Rp 0,2% k.s.l.	Sneveramento Streckgrenze Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einziehströmung Reduction of area Striction %		Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB		
							min	max			RA	%
Valori richiesti		min		30	-	75	-	40	-	50	-	140
Anforderungen/Required values Valeurs demandées		max				115						223
A	12,5	68	L	40		82		60		73		171

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			2

Mechanical properties according to ASTM A370.

Analisi chimica												
Chemische Zusammensetzung/Chemical Analysis/Analyse chimique												
Coata /Heat Schmelze/Coulée	min	max	0,030	1,00	1,25	16,50	2,03	1,00	10,00	0,040	0,020	0,100
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
283799	0,018	0,38	1,76	16,66	2,02	0,51	10,05	0,146	0,031	0,029	0,094	

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	130	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 5.5h/water cooled.  
 Reduction ratio = 4,7 : 1  
 Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste Die gestellten Anforderungen sind in 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 gefolgt Anti-mixing testing performed with XRF/OES portable - OK Contrôle antimélange svr technique XRF/OES portable - OK	Controllo visivo e dimensionale: soddisfa le esigenze Besichtigung und Ausmessung: ohne Beanstandung Visual inspection and dimension check satisfactory Contrôle visuel et dimensions: satisfaisant
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Vicenza, 11/12/2020 VQC052 - MEST653805	Direzione Qualità Qualitätsmanagement/Quality Management/ Gestion Qualite R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Prod. P. MESSORI	Pagina 2 di 3



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 Signes de fusine productrice



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Punzonatura: 316/316L  
 Kennzeichnung  
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 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.

WSPASCHERBOMAC1081556340163001548

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

Vicenza, 11/12/2020  
 VCO052 - VEST653805

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

Direzione Prodotto  
 Produktmanagement/Product Management/Direction Produit  
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