



## CERTIFICATO DI COLLALDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

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

Certificato nr. MEST790245 / 2021 /  
 Prüfung/Test/Essai

Clienti / Besteller/Kupfer/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/Werks/Usine productrice

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

Ordine nr.: 107008845 RELIANCE PROGRA  
 Bestell-  
 Your order  
 Commande

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

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



Conferma ordine nr.: EI21008690

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

Punzone del Collaudatore  
 Stempel des Werkstoffverständigen  
 Inspector's stamp/Pointeur de l'assureur

MR

Avviso di Spedizione: D-VI21020194  
 Lieferanzeige/Packing Notice

Marca: APLM  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

SPECIFICHE:	Note:
Anforderungen / Requirements / Exigences	Aufzeichnungen / Notes / Notes
VSI 0 316/316L A	
ANSI 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)	(0)Section II Part A 2019 EDITION For products machined directly from bar refer to ASME SA479
ASME SA193 2019 B8M CLASS 1 (1)	(1)Section II Part A 2019 EDITION
ASME SA276 2019 S31600/03 A (2)	(2)Section II Part A 2019 EDITION
ASME SA320 2019 B8M CLASS 1 CLASS1 (3)	(3)Section II Part A 2019 EDITION
ASME SA479 2019 S31600/03 A (4)	(4)Section II Part A 2019 EDITION
ASTM A182 2021 S31600/03 A (5)	(5)For products machined directly from bar refer also to ASTM A479.
ASTM A193 2020 B8M CLASS 1	
ASTM A282 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)	(6)Chemical analysis only.
ASTM A479 2020 S31600/03 A	
MIL-S-862 B/1 316/316L	
NACE MR0103 2015 S31600/03 A (7)	(7)ANSI/NACE MR0103/ISO 17945 November 23, 2015
NACE MR0175 2015 S31600/03 A (8)	(8)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015
QQ-S-763 F 316/316L A	

P.O.#: P123924  
 R#: R170871  
 ITEM#: 527249  
 HEAT#: 285359  
 BRANCH#: 875

Tolleranza: ASTM A484-20B TABLE 3

Pos. nr. Pos. n. No. de pos.	Oggetto Designated Product description Design. Description	Tolleranza/Allowance/Tolerance						Lotto nr. Lot no. Lot.
		Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colora Schmelz Heat Color	Pezzi Stückzahl Pieces Pieces	Peso - LB Gewicht Weight Poids		
0061	Round	15,0000	128/ 128	285359		6,623	100714321	

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

Vicenza, 25/08/2021 VOC062 - MEST790245	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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# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 Telefono 0444.988211 - Fax 0444.983835  
 Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37  
 Telefono 0471.924111 - Fax 0471.924497

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 Lieferzustand  
 Delivery state  
 Etat de livraison

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

Ordine nr: 107008845 RELIANCE PROGRA  
 Bestell-  
 Your order  
 Commande

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

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



Conferma ordine nr: EI21008690  
 Works/Our Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21020194  
 Lieferanzeige/Packing list/B.L.

Marca: APLM  
 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										
TEST	Provetta/ Probe Specimen/Epreuve Type: Disc Weld Diam. Dicca Weld Diam. Dicca Weld Diam. Dicca Weld Diam. Dicca	Posiz. Saggio Position Position Position	Snervamento Stress Tensile Stress Limite elastico Rp 0,2% R <sub>eL</sub>	Snervamento Stress Tensile Stress Limite elastico	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction RA %	Resistenza Kerbschlagenergie Impact Value Resilience	Durezza Härte Hardness Dureté HB	
	Valori richiesti Anforderungen/Required values Valeurs demandées	min max	30	-	75 115	40	50	-	140 223	
A	12,5	68 L	39		81	59	75		69	

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	min	1,25	16,50	2,00	10,00	0,020						
Schmelze/Coulee	max	0,030	1,00	2,00	18,00	3,00	1,00	14,00	0,040	0,030	0,100	
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
285359	0,022	0,38	1,83	16,85	2,02	0,48	10,09	0,151	0,031	0,021	0,085	

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 = 9,5 : 1  
 Material annealed 1940°F for 7h/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 geführt.  
 Antimixing 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 dimensional checks satisfactory  
 Contrôle visuel et dimensions: satisfaisant

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 25/08/2021 VCO052 - MEST790245	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Director Product P.MESSORI	Pagina 2 di 3



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Lieferzustand  
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Hersteller/Usine productrice

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Bestell  
Your order  
Commandes

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

Marche di Fabbrica  
Zeichen des Lieferteilwerkes  
Trade marks  
Sigles de l'usine productrice



Conferma ordine nr: EI21008690  
Werks/Our Order/Refer.

Qualità: 316/316L  
Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21020194  
Lieferanzeige/Packing list/VB L

Marca: APM L  
Markenbezeichnung  
Brand / Nuance

Punzonatura: 316/316L  
Kennzeichnung  
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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.

AVG 83001 - MEST790245 - CERTIFICATO COLLAUDO

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

Vicenza, 25/08/2021 VCO052 - MEST790245	Direzione Qualità Quality Management/Quality Management/Direction Qualité R. BERTELLI	Direzione Prodotto Product Management/Product Management/Direction Production P. MESSORI	Pagina 3 di 3
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