



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. MEST790245 / 2021 /
 Prüfung/Test/Essai

Clienta / Besteller/Purchaser/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/fabrik/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 107008845 RELIANCE PROGRA
 Bestell
 Your order
 Commande

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

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



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

Qualità: 316/316L
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21020194
 Lieferanweisung/Packing Inst/B.L.

Marca: APML
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE :	Note:
Anforderungen / Requirements / Exigences	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)	(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 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)	(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							
		Tolleranza/Allowance/Tolerance							
Pos. nr.	Oggetto	Dimensioni - In		Lunghezza - In		Colata	Pezzi	Peso - LB	Lotto nr.
Pos. nr. Item nr. Nr. de poste	Gegenstand Product description Descrip. de produit	Abmessungen Dimension Dimension	Abmessungen Dimension Dimension	Laenge Length Longueur	Laenge Length Longueur	Schmelze Heat Coulée	Stueckzahl Pieces Pieces	Gewicht Weight Poids	Losnr. Lot nr. Lot nr.
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 VCQ052 - MEST790245	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 1 di 3

RESCANNED 12/21/21 12/15/21



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

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

Cliente / Besteller/Purchaser/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/Fabrik/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 107008845 RELIANCE PROGRA
 Bestell: Your order Commande

Tipo di Elaborazione: E+AOD
 Erzhitzungsart: Rolling process Mode d'elaboration

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



Conferma ordine nr: EI21008890
 Werk/Our Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Noence

Punzona del Collaudatore:
 Stempel des Werkstachverständigen Inspector's stamp/Poinçon de l'essayeur

MR

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

Marca: APML
 Markenbezeichnung Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung Marking Marque

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	Proveite/ Probeabst. Speziation/Proveite Lab. dim Spass, Seals Dim. Dicke With Dim. Thickness Lab. dim. epais	Ø F	Posto. Seggio Procentage Lockout Endowment	Snervamento Snervamento Snervamento Rp 0,2% kN	Snervamento Snervamento Snervamento Yield Stress Yield Stress Yield Stress Limit elastic	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm kN	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Bruchminderung Reduction of area Striction RA %	Resilienza Kernschlagwert Impact Value Resilience	Durezza Härte Hardness Dureté HB	
											min
A	12,5	68	L	39	-	75 115	-	40	-	50	140 223
						81		59		75	169

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			4

Mechanical properties according to ASTM A370.

Analisi chimica												
Chemische Zusammensetzung/Chemical Analysis/Analyse chimique												
Collata / Heat Schmelze/Coulée	min	max	0,030	1,00	1,25	16,50	2,00	10,00	1,00	10,00	0,040	0,020
	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 = 9,6 : 1
 Material annealed 1940°F for 7h/water cooled.
 Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste Die gestellten Anforderungen sind il. Anlag 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 gelüht. Antlimbing 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 à dimensions: satisfaisant
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QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 25/08/2021 VCC052 - MEST790245	Direzione Qualità Qualitätsmanagement/Cuality Management/Quality R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction P.MESSORI	Pagina 2 di 3



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Nach/According to/Selon Prüfung/Test/Essai

Cliente / Besteller/Purchaser/Client
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 L5T 6Z1 - MILTON, ONT L5T 6Z1 - CA

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Lieferzustand
Delivery state
Etat de livraison

Produttore:
Hersteller/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **107008845 RELIANCE PROGRA**
Bestell
Your order
Commande

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

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



Conferma ordine nr: **EI21008690**
Weks/Ou: Order/Ref nr.

Qualità: **316/316L**
Werkstoff/Grade/Nuance

Punzone del Collaudatore:
Stempel des Werksachverordnigen
Inspector's stamp/Plaqueon de l'essayeur

MR

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

Marca: **APML**
Markenbezeichnung
Brand / Nuance

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.

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 25/08/2021 VCC052 - MEST790246	Direzione Qualità <small>Qualitätsmanagement/Quality Management/Qualidad Qualita</small> R.BERTELLI	Direzione Prodotto <small>Produktmanagement/Product Management/Dirección Producto</small> P.MESSORI	Pagina 3 di 3