



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.i.  
 Telefono 0444.968211 - Fax 0444.968336  
 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. MEST742974 / 2021 / Prufung/Test/Essai

Cliente / Besteller/Purchaser/Client <b>VALBRUNA CANADA LTD</b> 8724 HOLTGATE CRESCENT L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA	Stato di fornitura: <b>Forged - Annealed Peeled</b> Lieferzustand Delivery state Etat de livraison	Produttore: Hersteller/fabrik/Usine productrice  <b>ACCIAIERIE VALBRUNA S.P.A.</b>
Ordine nr: 105008747 RELIANCE PROGRA Bestell Your order Commande	Tipo di Elaborazione: <b>E+AOD</b> Erschmelzungsart Melting process Mode d'elaboration	Marchi di Fabbrica: Zeichen des Lieferanten Trade marks Signes de l'usine productrice
Conferma ordine nr: <b>EI21006255</b> Works/Our Order/Ref. nr.	Qualità: <b>316/316L</b> Werkstoff/Grade/Nuance	Punzone del Collaudatore: Stempel des Werkstoffachverständigen Inspector's stamp/Pointon de l'assesseur
Avviso di Spedizione: <b>D-VI21012802</b> Lieferanzeige/Packing instr. L.	Marca: <b>APML</b> Markenbezeichnung Brand / Nuance	Punzonatura: <b>316/316L</b> Kennzeichnung Marking Marquage

SPECIFICHE :	Note:
Anforderungen / Requirements / Exigences	Auzeichnungen / 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 2020 S31600/03 A (5)	(5)For products machined directly from bar refer also to ASTM A479.
ASTM A193 2019 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 . (6)	(6)2019E1
ASTM A473 2019 S31600/03 (7)	(7)Chemical analysis only.
ASTM A479 2020 S31600/03 A	
MIL-S-862 B/1 316/316L	
NACE MR0103 2015 S31600/03 A (8)	(8)ANSI/NACE MR0103/ISO 17945 November 23, 2015
NACE MR0175 2015 S31600/03 A (9)	(9)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015
QQ-S-763 F 316/316L A	

P.O.#: **P123518**

R#: **R169329**

ITEM#: **509382**

HEAT#: **285416**

BRANCH#: **875**

Tolleranza: ASTM A484-20B TABLE 3							
Tolleranza/Allowance/Tolerance							
Pos. nr. Part. nr. Item nr. Nr. de partie	Oggetto Gegegenstand Product description Description de produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losn. Lot nr. Lot nr.
0050	Round	11,0000	198/ 198	285416		5.428	104017450

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, <b>20/05/2021</b> VCC052 - MEST742974	Direzione Qualità Qualitätsmanagement/Quality Management/Quality Management <b>R.BERTELLI</b>	Direzione Prodotto Produktmanagement/Product Management/Direction Produit <b>P.MESSORI</b>	Pagina 1 di 3

scanned 9/29/2021

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 Telefono 0471.924111 - Fax 0471.924497

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

Certificato nr. MEST742974 / 2021 /  
 Prüfung/Tess/Essai

Ciente / 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/Hersteller  
 Manufacture

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

Ordine nr: 105008747 RELIANCE PROGRA  
 Bestell  
 Year order  
 Commande

Tipo di Elaborazione: E+AOD  
 Erzeugnisart  
 Melting process  
 Méthode d'élaboration

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



Conferma ordine nr: EI21003255

Qualità: 316/316L  
 Werkstoff/Grade/Numéro

Punzione del Collaudatore:  
 Stempel des Werkstoffverständigen  
 Inspector's stamp/Pointeur de l'essayeur

MR

Avviso di Spedizione: D-V121012802  
 Lieferanfrage/Packing list/B.L.

Marca: APLM  
 Markenbezeichnung  
 Brand / Numéro

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

TEST ALLO STATO DI FORNITURA										
Test on delivery condition / Prüfung auf Lieferbarem Produkt / Test a l'état de fourniture / Prueba sobre el material así como entregado										
TEST	Provetta/ Probe/échantillon	Ø	Post. Seggio/ Position/ Position/ Location/ Localisation	Snarvamento	Snarvamento	Resistenza	Allungamento	Strizione	Resilienza	Durezza
	Specimen/Éprouvette			Classe/Grade	Classe/Grade	Yield strength	Strain/Elongation	Reduction of area	Impact Value	Hardness
	Temp./Temp./Temp./Temp.			Field Stress	Yield Stress	Tensile strength	E 4d	RA		HB
	Temp./Temp./Temp./Temp.			Rp 0,2%	Limite élastique	Rm	%	%		
Valori richiesti	min			30	-	75	40	50	-	140
Valori ottenuti	max			39	-	115	61	75	-	223
A	12,5	68	L	39	-	81	61	75	-	167

TEST ALLO STATO DI FORNITURA			
Test on delivery condition / Prüfung auf Lieferbarem Produkt / Test a 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												
Colata / Heat	min	max	1,25	15,00	2,00	10,00	0,020	0,020	0,100			
Salmatura/Coûtée	0,030	1,40	2,00	15,00	3,00	14,00	0,040	0,030	0,100			
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
285416	0,022	0,47	1,72	16,76	2,07	0,98	10,04	0,147	0,029	0,029	0,090	

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.  
 Material annealed 1940°F for 5h/water cooled.  
 Reduction ratio = 4,8 : 1  
 Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste Die gezeigten Anforderungen sind in. Anlage erfüllt The material has been furnished in accordance with the requirements Le matériel a été livré conforme aux exigences	Controllo antiinquinamento con tecnica XRF/OES portatile : OK Verunreinigungsprüfung: durch XRF/OES Gerät geföhrt. Antipolluting testing performed with XRF/OES portable OK Contrôle anti-inquinao sur technique XRF/OES portable OK	Controllo visivo e dimensionale: soddisfa le esigenze Beschichtig und Ausmessung ohne Beanstandung Visual inspection and dimensional checks satisfactory Contrôle visuel et dimensionnel satisfaisant
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QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 20/05/2021 VQC052 - MEST742974	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Dirección Producción P.MESSORI	Pagina 2 di 3



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Ordine nr: 105008747 RELIANCE PROGRA  
 Bestell  
 Your 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: EI21008255  
 Wechs/Our Order/Ref. nr.

Qualità: 316/316L  
 Werkstoff/Grade/Qualitee

Punzone del Collaudatore:  
 Stempel des Werkstoffversuchingen  
 Inspector's stamp/Empton de l'essayeur

MR

Avviso di Spedizione: D-VI21012802  
 Lieferanweisung/Focking list/B.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.

YCPH754485721012802EI21008255

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

Vicenza, 20/05/2021 VCC052 - MEST742974	Direzione Qualità Qualitätsmanagement/Quality Management/Direction Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P. MESSORI	Pagina 3 di 3
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