



Acciaierie Valbruna S.p.A.

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

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

Certificato nr. MEST259583 / 2018 /
 Prüfung/Terak/Essai

Cliente / Besteller/Purchaser/Client
VALBRUNA CANADA LTD
 8724 HOLGATE CRESCENT
 L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

Stato di fornitura: Forged - Annealed FORGED
 Lieferzustand
 Delivery state
 Etat de livraison

Produttore:
 Hersteller/Bem./Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 805006980 STOCK

Bestel
 Your order
 Commande

Tipo di Elaborazione: E+AOD
 Erzeugungszustand
 Making process
 Mode d'elaboration

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



Conferma ordine nr: EI18005885

Werkstoff Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Qualite

Punzone del Collaudatore:
 Stempel des Werkstoffverständigen
 Inspector's stamp/Chapron de l'inspecteur

MR

Avviso di Spedizione: D-VI18016188

Lieferanweisung/Packing Instruct.

Marca: APML
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 315/316L
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE:	Note:
Anforderungen / Requirements / Edgences	Anmerkungen / Notes / Notes
VSI 0 316/316L A	
AISI 316/316L	
AMS 5648 M S31600 A	
AMS 5553 H S31603 A	
AMS-QQ-S-763 D 316/316L A	
ASME SA182 2017 S31600/03 A (0)	(0)Section II Part A 2017 EDITION For products machined directly from bar refer to ASME SA479.
ASME SA193 2017 B8M CLASS 1 (1)	(1)Section II Part A 2017 EDITION
ASME SA276 2017 S31600/03 A (2)	(2)Section II Part A 2017 EDITION
ASME SA320 2017 B8M CLASS1 (3)	(3)Section II Part A 2017 EDITION
ASME SA479 2017 S31600/03 A (4)	(4)Section II Part A 2017 EDITION
ASTM A182 2016 S31600/03 A (5)	(5)For products machined directly from bar refer also to ASTM A479.
ASTM A193 2016 B8M CLASS 1	
ASTM A262 2015 PRACTICE E	
ASTM A276 2017 S31600/03 A	
ASTM A314 2015 S31600/03	
ASTM A320 2017A B8M CLASS1	
ASTM A370 2017	
ASTM A473 2001 S31600/03 (6)	(6)Chemical analysis only.
ASTM A479 2018 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	

Tolleranza: ASTM A484-18 TABLE 3

Tolerance/Allowance/Tolerance

Pos. nr.	Oggetto	Dimensioni - In	Lunghezza - In	Colata	Pezzi	Peso - LB	Lotto nr.
Pos. nr. Bach. nr. Nr. de partie	Oggetto Product description Description du produit	Abmessungen Dimensions Dimensione	Länge Length Longueur	Schmelze Heat Coulée	Stückzahl Pieces Pièces	Gewicht Weight Poids	Losn. Lotn. Lotn.
0090	Round	15,0000	147/ 147	276452		7.509	803112660

P.O.#: P118577
 R#: R151431
 ITEM#: 527249
 HEAT#: 276452
 INCH#: 875

Vicenza, 08/06/18 VQ008 - MEST259583 (Mod. MCEZ)	Il collaudatore di stabilimento / der Werkstoffverständige / Works Inspector / L'agent d'usine M. RIZZOTTO	Pagina - 1 di 3
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Provided by: ENCORE METALS DIVISION OF RMCI

ANS



Acciaierie Valbruna S.p.A.

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Certificato nr. MEST259583 / 2018 /
 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 FORGED
 Werkzustand
 Delivery state
 Etat de livraison

Produttore:
 Hersteller/Manufacture producer

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 805006980 STOCK
 Bestell
 Your order
 Commande

Tipo di Elaborazione: E+AOD
 Erzeugungstyp
 Making process
 Mode d'elaboration

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



Conferma ordine nr: E18005885
 Werk/Dur. Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Nummer

Funzione del Collaudatore:
 Stempel des Werksachverständigen
 Inspektor's stamp/Poséon de l'inspecteur

MR

Avviso di Spedizione: D-VI18016188
 Lieferanzüge/Posting label

Marcas: APMI
 Markenbezeichnung
 Brand / Numere

Funzionatura: 316/316L
 Kennzeichnung
 Marking
 Marque

TEST ALLO STATO DI FORNITURA Test on delivery condition / Prüfung auf lieferbarem produkt / Test a l'etat de fourniture / Prueba sobre el material así como entregado

TEST	Proveite / Probenart Spezialanforderungen Länge, Dicke, Dicke Werkstoff, Thickness Länge, Dicke, Spalte mm	°F	Posiz. Saggio Ausrichtung Orientation	Snervamento Streckgrenze Yield Stress Limite allungamento Rp 0,2% k.s.l.	Snervamento Streckgrenze Yield Stress Limite allungamento k.s.l.	Resistenza Zugfestigkeit Tensile strength Kraftbrüche à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement		Strizione Erweichung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Kugelhärte Dureté HB
							E 4d %	%			
Valori richiesti Anforderungen/Requisit/valores Valeurs demandées		min max		30	-	75 115	-	40	-	50	140 223
A	12,5	68 L		38		81		62		74	170

TEST ALLO STATO DI FORNITURA Test on delivery condition / Prüfung auf lieferbarem produkt / Test a l'etat 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 / Metall	min -	-	1,25	15,50	2,00	10,00	-	0,020	-	-	-	-
Behälter/Container	max	0,030	1,00	2,00	13,00	3,00	1,00	14,00	0,040	0,030	0,100	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
276452	0,015	0,40	1,75	17,02	2,04	0,38	10,04	0,150	0,030	0,024	0,098	

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.
 Annealing temperature: 1940° F for 7 h/water.
 Micro and macro etch test: OK
 Reduction ratio = 6,5 : 1
 Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste
 Die gezielten Anforderungen sind A. Anlage erfüllt
 The material has been furnished in accordance with the requirements
 Le matériel a été livré conforme aux exigences

Controllo antimescolanza: OK
 Verwechslungsprüfung: spektroskopisch durchgeführt
 Antimixing testing performed: OK
 Contrôle antimélange fait: r.s.s.

Controllo visivo e dimensionale: soddisfa le esigenze
 Beschauung und Abmessung: ohne Beanstandung
 Visual inspection and dimensionel checks satisfactory
 Contrôle visuel et dimensionel: satisfaisant

Vicenza, 08/06/18
 VCC009 - MEST259583
 (Mod. MCEZ)

Il collaudatore di stabilimento / der Werksachverständige / Works Inspector / L'agent d'usine

M. RIZZOTTO *M. Rizzotto*

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Prüfung/Test/Essai

Cliente / Basteller/Purchaser/Cliënt VALBRUNA CANADA LTD 8724 HOLLGATE CRESCENT L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA	Stato di fornitura: Forged - Annealed FORGED Lieferzustand Delivery state Etai de livrare	Produttore: Hersteller/Werk/Machine producties ACCIAIERIE VALBRUNA S.P.A.
Ordine nr. 805006980 STOCK Bestell Your order Commande	Tipo di Elaborazione: E+AOD Erzeugungsart Making process Mode d'elaboration	Marchi di Fabbrica: Zeichen des Lieferwerkes Trade marks Sigles de l'usine productrice
Conferma ordine nr. EI18005885 Werkstoff Order Ref. nr.	Qualità: 316/316L Werkstoff/Grade/Nuance	Punzone del Collaudatore: Stempel des Werkstoffverständigen Inspector's stamp/Poinçon de l'essayeur
Avviso di Spedizione: D-VI18016188 Lieferanweisung/Packing Instr.	Marca: APML Markenbezeichnung Brand / Nuance	Punzonatura: 316/316L Kennzeichnung Branding Marquage



MR

Melted 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 through 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

The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] Annex 1, s. 4.3 and 2014/69/EU by TUEV 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.

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