



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

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

Certificato nr. **MEST359959 / 2019 /**
 Prufung/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/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **812007266 STOCK**

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: **E118012153**

Werkst/Qu-Order/Ref nr.

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

Punzone del Collaudatore:
 Stempel des Werkssachverständigen
 Inspector's stamp/Poinçon de l'assesseur

MR

Avviso di Spedizione: **D-VI19003782**

Lieferanweisung/Packing list/B.L.

Marca: **APML**
 Markenbezeichnung
 Brand / Nuance

Punzonatura: **316/316L**
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE :

Anforderungen / Requirements / Exigences

Note

Aufzeichnungen / Notes / Notes

VSI 0 316/316L A
 AISI 316/316L
 AMS 5648 M S31600 A
 AMS 5653 H S31603 A
 AMS-QQ-S-763 D 316/316L A
 ASME SA182 2017 S31600/03 A (0)
 ASME SA193 2017 B8M CLASS 1 (1)
 ASME SA276 2017 S31600/03 A (2)
 ASME SA320 2017 B8M CLASS1 (3)
 ASME SA479 2017 S31600/03 A (4)
 ASTM A182 2018 S31600/03 A (5)
 ASTM A193 2017 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)
 ASTM A479 2018 S31600/03 A
 MIL-S-862 B/1 316/316L
 NACE MR0103 2015 S31600/03 A (7)
 NACE MR0175 2015 S31600/03 A (8)
 QQ-S-763 F 316/316L A

(0)Section II Part A 2017 EDITION For products machined directly from bar refer to ASME SA479.

(1)Section II Part A 2017 EDITION

(2)Section II Part A 2017 EDITION

(3)Section II Part A 2017 EDITION

(4)Section II Part A 2017 EDITION

(5)For products machined directly from bar refer also to ASTM A479.

(6)Chemical analysis only.

(7)ANSI/NACE MR0103/ISO 17945 November 23 2015

(8)ANSI/NACE MR0175/ISO 15156-3, third edition November 23 2015

Tolleranza ASTM A484-18 TABLE 3

Tolleranza/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr de poste	Oggetto Gegenstand Product description Descrip. du produit	Dimensioni - In	Lunghezza - In	Colata	Pezzi	Peso - LB	Lotto nr.
		Abmessungen Dimension Dimension	Länge Length Longueur	Schmelze Heat Coulée	Stückzahl Pieces Pieces	Gewicht Weight Poids	Lot nr. Lot nr. Lot nr.
0020	Round	15,0000	121/ 122	279060		12.441	829603851

ANS

Vicenza, **05/02/19**

VCC005 - MEST359959

(Mod. MCE2) V05108AE4FDC38E4F4ACE 02/2899A/256/78

Il collaudatore di stabilimento / der Werkssachverständige / Works inspector / L'agent d'usine

M. RIZZOTTO *M. Rizzotto*

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ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 812007266 STOCK

Bestell
 Your order
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Tipo di Elaborazione: E+AOD
 Erhmelungsart
 Making process
 Mode d'elaboration

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



Conferma ordine nr: EI18012153

Werks/Our Order/Ref nr

Qualità: 316/316L
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 Stempel des Werkssachverständigen
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Marca: APML
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 Brand / Nuance

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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/ Probetab Specimen/Eprouvette Laig diam. Spess. Brefe Diam. Dicke Wirth Diam. Thickness Laig diam. espess. mm	°F	Posiz. Saggi Richtung Lage Orientation	Snervamento Streckgrenze Yield Stress Limite elastique Rp 0,2%	Snervamento Streckgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Resistance a traction Rm	Allungamento Bruchdehnung Elongation Elongement E 4d	Strizione Einschnürung Reduction of area Striction RA	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Durete HB
	mm			mm	mm	%				
Valori richiesti Anforderungen/Require values Valeurs demandees		min max		30	-	75 115	- 40	- 50	-	140 223
A	12,5	68	L	38		82	64	75		168

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		1

Mechanical properties according to ASTM A370.

Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata /Heat Schmelze/Coalee	min - max	1,25 2,00	1,25 2,00	*5,50 15,00	2,00 3,00	- 1,00	10,00 14,00	- 0,040	0,020 0,030	- 0,100	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %			
279060	0,016	0,35	1,71	16,84	2,03	0,41	10,00	0,123	0,030	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 II-Ozone depleting substances.
 Solution heat treated free from continuous carbide network.
 Micro and macro etch test : OK
 Reduction ratio > 4 : 1
 Annealing temperature : 1940° F for 7 h/water.
 Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste
 Die gestellten Anforderungen sind in der Anlage erfüllt
 The material has been furnished in accordance with the requirements
 Le materiel a été trouve conforme aux exigences

Controllo antimiscelanza: OK
 Verwechslungsprüfung: spectralanalytisch durchgeführt
 Antimixing testing performed: OK
 Contrôle antimelange fait: r.a.s.

Controllo visivo e dimensionale: soddisfa le esigenze
 Besichtigung und Ausmessung: ohne Beanstandung
 Visual inspection and dimensional checks satisfactory
 Contrôle visuel et dimensions: satisfaisant

Vicenza, 05/02/19

VCO005 - MEST359959

(Mod. MCE2) A015568A7C04318A4B7F259A1C0020

Il collaudatore di stabilimento / der Werkssachverständige / Works inspector / L'agent d'usine

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Lieferanzahl/Packing list/V.B.L.

Marca: APML
Markenbezeichnung
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Punzonatura: 316/316L
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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 2014/68/EU Annex 1, chapt.4.3 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.

Vicenza, 05/02/19

VCC005 - MEST359959

(Mod. MCE2) 4059164247204984840874769947350_74

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