



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

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

Certificato nr. **MEST383508 / 2019 /**
 Prüfung/Prüf-Essai

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

Stato di fornitura: **Forged - Annealed Peeled**
 Lieferzustand
 Delivery state
 État de livraison

Produttore:
 Hersteller/Hersteller/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. **902007379 Stock - Canada**
 Bestell- / Auftrags- / Commande-

Tipo di Elaborazione: **E+AOD**
 Fertigstellungstyp
 Making process
 Mode d'élaboration

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



Conferma ordine nr.: **E119002039**
 Werks-/Our Order/Ref. nr.

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

Punzone del Collaudatore:
 Stempel des Werkssachverständigen
 Inspector's stamp/Prinon de l'essayeur

MR

Avviso di Spedizione: **D-VI19008446**
 Lieferanzuge/Packing list/F.I.L.

Marca: **APML**
 Markenbezeichnung
 Brand / Nuance

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

SPECIFICHE :

Note

Anforderungen / Requirements / Exigences

Außerungen / Notes / Notes

VSI 0 316/316L A
 AISI 316/316L
 AMS 5648 M S31600 A
 AMS 5653 H S316C3 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 EDIT ON 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

Pos. nr. Pos. nr. Item nr. N° de poste	Oggetto Gegenstand Product description Descrip. du produit	Tolleranza/Allowance/Tolerance		Lunghezza - ln Länge Length Longueur	Colata Schmelze Heat Cotee	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losn. Lot nr. Lot nr.
		Dimensioni - ln Abmessungen Dimension Dimension						
0040	Round	11,0000		142/ 143	278425		7.837	817607330

Vicenza, 19/03/19

VCQ008 - MEST383508

(Mod. MCE2) - Anhang 2 der EN 10474-3:2013

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

M. RIZZOTTO

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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. MEST383508 / 2019 /
 Prüfung/Test/Essa

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/Werk/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 902007379 Stock - Canada
 Bestell-
 Your order:
 Commande

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

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



Conferma ordine nr. EI19002069
 Werks/CU-Order/Ref nr

Qualità: 316/316L
 Werkstoff/Grade/Qualité

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

MR

Avviso di Spedizione: D-VI19008446
 Lieferanzüge/Packing list/B.L.

Marca: APML
 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 / Provette Larg. diam. Spess. Bred. Diam. Dicke Width Diam. Thickness Larg. diam. epais mm	°F	Posiz. Saggio Position Local. Emploiment	Snervamento Streckgrenze Yield Stress Limite elastique Rp 0,2% k.s.i		Resistenza Zugfestigkeit Tensile strength Resistance a traction Rm k.s.i	Allungamento Bruchdehnung Elongation Allongement E 4d	Strizione Einschnürung Reduction of area Striction %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
				min	max					
Valori richiesti Anforderungen/Required values Valeurs demandées				30	-	75 115	40	50	-	140 223
A	12,5	68	L	38		81	64	75		169

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

Element	Unit	Value
C	%	0,020
Si	%	0,37
Mn	%	1,73
Cr	%	16,68
Mo	%	2,05
Cu	%	0,35
Ni	%	10,06
Co	%	0,142
P	%	0,031
S	%	0,020
N	%	0,087

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 = 4.6 : 1
 Annealing temperature : 1976°F for 6.5 h /water.
 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 livré conforme aux exigences

Controllo antimiscelazione: OK
 Verwechslungsprüfung: spektralanalytisch durchgeführt
 Antimixing testing performed: OK
 Contrôle anti-mélange fait: O.K.

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

Vicenza, 19/03/19

VCC008 - MEST383508

(Mod. MCE2) www.valbruna.com

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

M. RIZZOTTO

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Certificato nr. MEST383508 / 2019 /
Prüfung/Fest/Essa

Nach/According to/Selon

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8724 HOLGATE 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: 902007379 Stock - Canada
Bestell
Your order
Commande

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

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



Conferma ordine nr: E19002059
Verweis/Our Order/Ref nr:

Qualità: 316/316L
Werkstoff/Grade/Lance

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

MR

Avviso di Spedizione: D-VI19003446
Referenzen für/Packing list/RL

Marca: APML
Markenbezeichnung
Brand / Nuance

Punzonatura: 316/316L
Kennzeichnung
Marking
Marquage

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 TÜEV 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, 19/03/19

VCC008 - MEST383508

(Mod. MCE2) - ASP1885.5 - DATA/ALTA/IMP/2015/01

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

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