



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. MEST706191 / 2021 /
Prüfung/Test/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
Etat de livraison

Produttore :
Hersteller/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr.: 101008440 P121969-875 ENC
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 fusino productrice



Conferma ordine nr.: EI21000538
Werkz./Our Order/Ref. nr.

Qualità: 316/316L
Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21007029
Lieferanzeige/Packing list/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 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

Tolleranza: ASTM A484-20B TABLE 3

Tolleranza/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrip. du 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. Losnr. Lot nr. Lot nr.
0010	Round	15,0000	185/ 185	285013		9.489	100716991

P.O.#: P121969
R#: R166713
ITEM#: 527249
HEAT#: 285013
BRANCH#: 875

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

Vicenza, 23/03/2021
VCCQ52 - MEST706191

Direzione Qualità
Qualitätsmanagement/Quality Management/Direction Qualité
R.BERTELLI

Direzione Prodotto
Produktmanagement/Product Management/Direction Produit
P.MESSORI

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MAY 21 *MS*



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Produttore:
 Hersteller/fabrik/Usine productrice

Ordine nr: 101008440 P121969-875 ENC

Tipo di Elaborazione: E+AOD

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



Bestell
 Your order
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Erschmelzungsart
 Melting process
 Mode d'alaboration

Qualità: 316/316L

Punzone del Collaudatore:
 Stempel des Werkstoffverständigen
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MR

Conferma ordine nr: EI21000538

Werk/Our Order/Ref. nr.

Werkstoff/Grade/Nuance

Punzonatura: 316/316L

Avviso di Spedizione: D-VI21007029

Lieferanzeiger/Packing list/B.L.

Marca: APLM

Markenbezeichnung
 Brand / Nuance

Kennzeichnung
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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/ Probe/Specimen Larg. diam. Spess. / Breite Diam. Dicke / Wagn. Diam. Thickness / Larg. diam. epais / mm	°F	Posiz. Saggio / Placement / Location / Emplacement / mm	Snervamento / Streckgrenze / Yield Stress / Limite elastique / Rp 0,2% / k.s.i.	Snervamento / Streckgrenze / Yield Stress / Limite elastique / Rp 0,2% / k.s.i.	Resistenza / Zugfestigkeit / Tensile strength / Resistance à traction / Rm / k.s.i.	Allungamento / Bruchdehnung / Elongation / Allongement / E 4d / %	Strizione / Einschnürung / Reduction of area / Striction / RA / %	Resilienza / Kerbschlagarbeit / Impact Value / Resilience	Durezza / Härte / Hardness / Dureté / HB
Valori richiesti / Antendungen/Required values / Valeurs desmises				30	-	75	40	50	-	140
				115		81	59	75		223
A	12,5	63	L	39						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		4

Mechanical properties according to ASTM A370.

Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata /Heat /Schmelze/Coulee	min - max	0.030	1.00	1.25 2.00	16.50 18.00	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 %				
285013	0,022	0,47	1,71	16,60	2,04	0,77	10,00	0,120	0,031	0,027	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.
 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 it. Anlage 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 geführt.
 Antimixing testing performed with XRF/OES portable OK
 Contrôle antimélange svr technique XRF/OES portable OK

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

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

Vicenza, 23/03/2021 VCQ052 - MEST706191	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualite R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 2 di 3
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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.

Maxival 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.

WSPMECE91120804-11MEST/12140119ACDC

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Vicenza, 23/03/2021

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VCQ052 - MEST706191

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