



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

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

Certificato nr. MEST026567 / 2022 /
 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.

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



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

MR

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

Ordine nr: 112009184 RELIANCE PROGRA
 Bestell
 Your order
 Commande

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

Conferma ordine nr: EI21015646
 Werks/Our Order/Ref nr.

Qualità: 316/316L
 Werkstoff/Grade/Nuance

Avviso di Spedizione: D-VI22010608
 Lieferanzeige/Packing list/B.L.

Marca: APML
 Markenbezeichnung
 Brand /Nuance

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 2021 S31600/03 A (0)
 ASME SA193 2021 B8M CLASS 1 (1)
 ASME SA276 2021 S31600/03 A (2)
 ASME SA320 2021 B8M CLASS 1 CLASS1 (3)
 ASME SA479 2021 S31600/03 A (4)
 ASTM A182 2021 S31600/03 A (5)
 ASTM A193 2020 B8M CLASS 1
 ASTM A262 PR. E 2015 316/316L (6)
 ASTM A276 2017 S31600/03 A
 ASTM A314 2019 S31600/03
 ASTM A320 2018 B8M CLASS 1 CLASS1
 ASTM A370 2021 .
 ASTM A473 2021 S31600/03 (7)
 ASTM A479 2021 S31600/03 A
 MIL-S-862 B/1 316/316L
 NACE MR0103 2015 S31600/03 A (8)
 NACE MR0175 2015 S31600/03 A (9)
 QQ-S-763 F 316/316L A

(0)Section II Part A 2021 EDITION For products machined directly from bar refer to ASME SA479.
 (1)Section II Part A 2021 EDITION
 (2)Section II Part A 2021 EDITION
 (3)Section II Part A 2021 EDITION
 (4)Section II Part A 2021 EDITION
 (5)For products machined directly from bar refer also to ASTM A479.
 (6)Reapproved 2021
 (7)Chemical analysis only.
 (8)ANSI/NACE MR0103/ISO 17945 November 23, 2015
 (9)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015

P.O.#: P124833
 R#: R174486
 ITEM#: 527249
 HEAT#: 288299
 BRANCH#: 875

Tolleranza: ASTM A484-21 TABLE 3 4

Toleranz/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.
0030	Round	15,0000	84/ 84	288299		4.367	129519740

7/5



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 Brand / Nuance

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	Provetta/ Probestab Specimen/Eprobenste Long diam Spec. Bresle Diam. Dicke Width Diam. Thickness Lang. diam. epais mm	°F	Posiz. Saggio Position Location Emploiment	Snervamento Streckgrenze Yield Stress Limite élastique Rp 0,2% k.s.l.	Snervamento Streckgrenze Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement		Strizione Einschränkung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
							E 4d	%			
Valori richiesti		min		30	-	75	-	40	-	50	140
Anforderungen/Required values Valeurs demandées		max				115					223
A	12,5	68	L	39		81		66		74	171

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		1

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	16,60 16,00	2,00 3,00	10,00 14,00	1,00	0,040	0,020 0,030	0,100	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %				
288299	0,016	0,34	1,81	16,61	2,06	0,52	10,05	0,124	0,029	0,026	0,092				

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 1976°F for 8,5 h /water cooled.
 Material is DFARS Compliant

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

Controllo antimiscelazione con tecnica XRF/OES portatile: OK
 Verwechslungsprüfung durch XRF/OES Gerät geführt.
 Antimixing testing performed with XRF/OES portable: OK
 Contrôle antimélange sur technique XRF/OES portable: OK

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



Acciaierie Valbruna S.p.A.

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Telefono 0444.968211 - Fax 0444.963838
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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.

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.

WSPF18025H122102RAC0001240F1010048

Provided by CPA

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