



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

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

Certificato nr. MEST535207 / 2020 /
 Prüfung/Test/Essai

Cliente / Besteller/Purchaser/Client
 VALBRUNA CANADA LTD
 8724 HOLTGATE CRESCENT
 L5T 6Z1 - MILTON, ONT L5T 6Z1 - CA

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

Produttore:
 Hersteller/firma/Usine/producteur

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 002007914 RELIANCE PROGRA
 Bestell
 Your order
 Commande

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

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



Conferma ordine nr. EI20001966
 Werk/Our Order/Ref.nr.

Qualità: 316/316L
 Werkstoff/Grade/Nuance

Punzone del Collaudatore:
 Stempel des Werkstachverständigen
 Inspector's stamp/Plaqueon de l'essayeur

MR

Avviso di Spedizione: D-VI20006074
 Lieferanzeige/Packing list/S.L.

Marca: APLM
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marque

SPECIFICHE :

Anforderungen / Requirements / Exigences

Note:

Aufzeichnungen / Notes / Notes

VSI D. 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)
 ASME SA193 2019 B8M CLASS 1 (1)
 ASME SA276 2019 S31600/03 A (2)
 ASME SA320 2019 B8M CLASS1 (3)
 ASME SA479 2019 S31600/03 A (4)
 ASTM A182 2019 S31600/03 A (5)
 ASTM A193 2019 B8M CLASS 1
 ASTM A262 2015 PRACTICE E
 ASTM A276 2017 S31600/03 A
 ASTM A314 2019 S31600/03
 ASTM A320 2018 B8M CLASS 1 CLASS1
 ASTM A370 2019 . (6)
 ASTM A473 2001 S31600/03 (7)
 ASTM A479 2018 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 2019 EDITION For products machined directly from bar refer to ASME SA479.

(1)Section II Part A 2019 EDITION

(2)Section II Part A 2019 EDITION

(3)Section II Part A 2019 EDITION

(4)Section II Part A 2019 EDITION

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

(6)2019E1

(7)Chemical analysis only.

(8)ANSI/NACE MR0103/ISO 17845 November 23, 2015

(9)ANSI/NACE MR0175/ISO 15158-3, third edition November 23,2015

R948973
 509378
 Load # 50175

Tolleranza: ASTM A484-19 TABLE 3

Tolleranza/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. No. de piece	Oggetto Designation Product description Design. du produit	Dimensioni - In		Lunghezza - In Länge Length Langueur	Colata Schmelze Heat Coudes	Pezzi Eckstück Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Lose Lot nr. Lot n°
		Abmessungen Dimension Dimension						
0030	Round	8,5000		212/ 212	282078		3.534	932602480

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

Vicenza, 09/03/2020 VCQ052 - MEST535207	Direzione Qualità Quality Management/Quality Management/Direction Qualité R.BERTELLI	Direzione Prodotto Product Management/Product Management/Direction Produit P.MESSORI	Pagina 1 di 3
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 Making process
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Marchi di Fabbrica:
 Zeichen des Lieferanten/Markes
 Trade marks
 Sigles de fusine productrice



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Avviso di Spedizione: D-VI20006074
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Marca: APML
 Markenbezeichnung
 Brand/Nuance

Punzonatura: 316/316L
 Kennzeichnung
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 Marquage

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/ Probe/Tab	°F	Raz. Goglio	Sneramento	Sneramento	Resistenza	Allungamento	Strizione	Resilienza	Durezza	
	Specimen/Éprouvette			Scoglienza	Scoglienza	Zugtragkraft	Dehnung	Einziehung	Kerbschlagarbeit		
	Large Diam. Spec. / Large Diam. Thickess / Large diam. épave			Limite elastico / Rp 0,2%	Limite elastico	Tensile strength / Rm	Elongation / E 4d	Reduction of area / RA	Impact Value / Resilience	Hardness / HB	
	min			30	-	75	40	50	-	140	
	max					115				223	
A	12,5	68	L	38		81	57	70		174	

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 / Heat	min -	-	1,25	16,53	2,00	-	10,00	-	0,020	-	-	-	-
Schmelze/Couée	max 0,032	1,00	2,00	18,03	3,00	1,00	14,00	-	0,030	0,100	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %		
282378	0,019	0,30	1,73	16,83	2,09	0,49	10,04	0,162	0,034	0,024	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.
 Material annealed 1940°F for 4h/water cooled.
 Reduction ratio = 7,6 : 1
 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 antimescolanza: OK Vermischungsprüfung: spektralanalytisch durchgeführt. Antimixing testing performed. OK Contrôle antimélange fait. r. e.	Controllo visivo e dimensionale: soddisfa le esigenze Besichtigung und Ausmessung: ohne Beanstandung Visual inspection and dimensional checks satisfactory Contrôle visuel et dimensions: satisfaisant
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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.

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Vicenza, 09/03/2020 VCQ52 - MEST535207	Direzione Qualità Qualitätsmanagement/Quality Management/Direction Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P. MESSORI	Pagina 2 di 3



Acciaierie Valbruna S.p.A.

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Telefono 0471.924111 - Fax 0471.924497

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Erschmelzungsart
Melting process
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Zeichen des Lieferwerkes
Trade marks
Sigles de l'usine productrice



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Brand / Nuance

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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.

VCQ052 - MEST535207 / 2020 / 316/316L

INS

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