



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

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

Certificato nr. MEST840346 / 2021 /
 Prüfung/Test/Essai

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

Stato di fornitura: Hot rolled Polished Annealed
 Lieferzustand: Peeled
 Delivery state:
 Etat de livraison:

Produttore:
 Hersteller/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 110009039 Stock - Canada
 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: EI21012768
 Werks/Our Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI21028533
 Lieferanzeige/Packing list/B.L.

Marca: MVAPML (MAXIVAL)
 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 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 CLASS 1 CLASS1 (3)
 ASME SA479 2019 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 2020 .
 ASTM A473 2021 S31600/03 (7)
 ASTM A479 2020 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)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

Tolleranza: ASTM A484-20B TABLE 7

Toleranz/Allowance/Tolerance

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrip. de 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	Lasnr. Lot nr. Lot nr.
0050	Round	3,7500		144/ 165		287037	6	3.089	124421090

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

Vicenza, 18/11/2021 VCC052 - MEST840346	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Product P.MESSORI	Pagina 1 di 3
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 Erweichungsart: Melting process
 Mode d'elaboration:

Marchi di Fabbrica:
 Zeichen des Lieferanten
 Titche maris
 Sigles de l'usine productrice



Conferma ordine nr: EI21012768
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TEST ALLO STATO DI FORNITURA										
Test on delivery condition / Prüfung auf lieferbarem Produkt / Test à l'état de fourniture / Prueba sobre el material así como entregado										
TEST	Provetta/ Probe/échantillon/Specimen/Éprouvette Long. diam. Spess. Breite Diam. Dichto Width Diam. Thickness Long. diam. Spess. épaisseur	°F	Posiz. Saggio Probetage Location Essais/essai	Snervamento Überspannung Yield Stress Limite élastique Rp 0,2% k.s.l.	Snervamento Streckgrenze Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Resistence à la traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einseitige Reduktion of area Striction RA %	Resilienza Kerndehngewinn Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti Anforderungen/Required values Valeurs demandées				30	-	75	-	40	-	140
A	12,5	68	L	43		86		55	67	168

TEST ALLO STATO DI FORNITURA			
Test on delivery condition / Prüfung auf lieferbarem Produkt / Test à l'état de fourniture / Prueba sobre el material así como entregado			
TEST	min	max	
A Grain size for ASTM E112			6

Mechanical properties according to ASTM A370.

Analisi chimica												
Chemische Zusammensetzung/Chemical Analysis/Analyse chimique												
Colata /Heat Schmelze/Coulée	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 %	
287037	0,021	0,56	1,57	16,68	2,04	0,52	10,11	0,153	0,028	0,027	0,064	

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 spindic (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 = 4,1 : 1
 Material annealed 1940°F for 2 h/water cooled.
 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 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
 Beschligung und Ausmessung: ohne Beanstandung
 Visual inspection and dimensional check satisfactory
 Contrôle visuel et dimensions: satisfaisant

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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.

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