



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 Z.
 Telefono 0444.938211 - Fax 0444.963335
 Stab. 39100 BOLZANO (Italia) - Via A. Volta, 4/37
 Telefono 0471.924111 - Fax 0471.924497

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. MEST003215 / 2022 /
 Prüfung/Trouvée

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/Werks/Jaisno producer:

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr.: 112009227 RELIANCE PROGRA
 Bestell-/
 Your order/
 Commande

Tipo di Elaborazione: E+AOD
 Eisenherstellung/
 Milling process/
 Mode d'elaboration

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



Conferma ordine nr.: EI21016478
 Wunsch/Order/Refer.

Qualità: 316/316L
 Werkstoff/Grade/Noeue

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

MR

Avviso di Spedizione: D-VI22006065
 Lieferanweisung/Packing instruction

Marca: APML
 Markenbezeichnung
 Brand/Noeue

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE:

Anforderungen / Requirements / Exigences

Note:

Bezeichnungen / Notes / Notes

VS 0, 316/316L A
 AIS: 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 CLASS (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 CLASS 1
 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 15156-3, November 23, 2015

(9)ANSI/NACE MR0175/ISO 15156-3, 3rd edition November 23, 2015

P.O.#: P124521

R#: R173725

ITEM#: 521534

HEAT#: 287395

BRANCH#: 875

Tolleranza: ASTM A484-20B TABLE 3

Pos. nr. Pos. Nr. Item No. di posto	Oggetto Gegegenstand Product description Description de l'article	Tolleranza/Allowance/Tolerance		Lunghezze - ln Länge Length Länge	Colata Gießerei Heat Casting	Pezzi Stückzahl Pieces Pieces	Peso - LB Gewicht Weight Poids	Lotto nr. Lose Lot Lot No.
		Dimensioni - fr Abmessungen Dimensions Dimensions						
0080	Round	13,0000		141/ 141	287395		5.454	1256-4580

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

Vicenza, 03/03/2022 VCQ052 - MEST003215	Direzione Qualità Qualitätsmanagement/Quality Management/Direction Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produits P. VISSOR	Pagina 1 di 3
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Certificato nr. MEST003215 / 2022 /
 Prüfungs/Testschein

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

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

Produttore:
 Hersteller/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 112009227 RELIANCE PROGRA
 Bestell
 Your order
 Commande

Tipo di Elaborazione: E+ADD
 Erhebungsart
 Milling process
 Mode d'opération

Marchi di Fabbrica
 Zeichen des Lieferanten
 Trade marks
 Signes de l'usine productrice



Conferma ordine nr: EI21016478
 Works/Our Order/Ref nr

Qualità: 316/316L
 Werkstoff/Grade/Vuance

Punzone del Collaudatore:
 Stempel des Sachverständigen
 Inspector's stamp/Pointon de l'essayeur

MFR

Avviso di Spedizione: D-VI22006065
 Teletransport/Packing list/VBL

Marca: APM L
 Markenbezeichnung
 Brand/ Marque

Punzonatura: 3° 6/316L
 Kennzeichnung
 Marking
 Marquage

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	Proveita/ Probe Spornenprüfart Lapdon Spec. Beil. Dim. Dick. Voll- Dim. Thickness Lap. Dim. Sporn	°F	Pozz. Sagge Flange Lapdon	Sneramento Strainage Yield Stress Limite elastic Rp 0,2%		Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm	Allungamento Bruchdehnung Elongation Allongement	Strizione Einknickung Reduction of area RA	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB		
				min	max						min	max
Valori richiesti Anforderungen/Requisits values Valeurs demandées				30	-	75	-	40	-	50	-	140
						115						223
A	12,5	68	L	39		81		55		74		165

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		4

Mechanical properties according to ASTM A370.

Analisi chimica

Chemische Zusammensetzung / Chemical Analysis / Analyse chimique

Colata / Ingot Schmelze/Source	min	max	1,25	16,50	2,00	10,00	0,020	0,030	0,030	0,030	0,030
C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
287395	0,018	0,39	1,72	16,73	2,04	0,59	10,03	0,176	0,027	0,025	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 = 4,7 : 1
 Material annealed 1976°F for 8 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 livré conforme aux exigences

Controllo antimiscelazione con tecnica XRF/DES portatile: OK
 Verwechslungsprüfung durch XRF/DES Gerät geführt
 Anti mixing testing performed with XRF/DES portable: OK
 Contrôle antimélange svr technique XRF/DES portable: OK

Controllo visivo e dimensionale: soddisfa le esigenze
 Besichtigung und Ausmessung ohne Beanstandung
 Visual inspection and dimension checks satisfactory
 Contrôle visuel et dimension: satisfait

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

Vicenza, 03/03/2022 VCC052 - MEST003215	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 2 di 3
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 Lieferzustand
 Delivery state
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 Hersteller/Usine producer

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 112009227 RELIANCE PROGRA
 Bestell
 Your order
 Commande

Tipi di Elaborazione: E+AOD
 Eschmelzungsart
 Melting process
 Méthode d'élaboration

Marchi di Fabbrica:
 Zeichen des Lieferanten
 Trade marks
 Signes de l'usine productrice



Conferma ordine nr: EI21016478
 Works/Our Order/Ref. nr.

Qualità: 316/316L
 Werkstoff/Grade/Qualité

Funzione del Collaudatore:
 Stempel des Werkstoffversuchsanlagen
 Inspector's stamp/Pointon de l'essayeur

MR

Avviso di Spedizione: D-VI22006065
 Lieferanzge/Packing (ISO 8)

Marca: APNL
 Markenbezeichnung
 Brand / Marque

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

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 Product.

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

Vicenza, 03/03/2022

Direzione Qualità
 Qualitätsmanagement/Quality Management/Gestion Qualité

Direzione Prodotto
 Produktmanagement/Product Management/Direction Produit

VCC052 - MEST003215

R.BERTELLI

P.MESSORI

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