



Acciaierie Valbruna S.p.A.

#274318

C19901

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
 Telefono 0444.968211 - Fax 0444.963836
 Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37
 Telefono 0471.924111 - Fax 0471.924497

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

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

Certificato nr. **MEST137504 / 2017 /**
 Prüfung/Test/Essai

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

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

Produttore :
 Hersteller/Werk/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 706006424 Stock - Canada
 Bestell
 Your order
 Commande

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

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



Conferma ordine nr. **EI17006756**
 Werk/Our Order/Ref. nr.

Qualità: **316/316L**
 Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: **D-VI17027461**
 Lieferanzeige/Packing list/B.L.

Marca: **APML**
 Markenbezeichnung
 Brand / Nuance

Punzonatura: **316/316L**
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE :

Nota:

Anforderungen / Requirements / Engagements

Aufzeichnungen / Notes / Notes

VSI 0 316/316L A
 AISI 316/316L
 AMS 5648 M S31600 A
 AMS 5653 H S31603 A
 AMS-QQ-S-763 D 316/316L A
 ASME SA182 2015 S31600/03 A (0)
 ASME SA193 2015 B8M CLASS1 (1)
 ASME SA276 2015 S31600/03 A (2)
 ASME SA320 2015 B8M CLASS1 (3)
 ASME SA479 2015 S31600/03 A (4)
 ASTM A182 2016 S31600/03 A (5)
 ASTM A193 2016 B8M CLASS1
 ASTM A262 2015 PRACTICE E
 ASTM A276 2017 S31600/03 A
 ASTM A314 2015 S31600/03
 ASTM A320 2017A B8M CLASS1
 ASTM A370 2017
 ASTM A473 2001 S31600/03 (6)
 ASTM A479 2017 S31600/03 A
 MIL-S-862 B/1 316/316L
 NACE MR0103 2010 S31600/03 A
 NACE MR0175 2015 S31600/03 A (7)
 QQ-S-763 F 316/316L A

(0)SECTION II PT.A 2015 EDITION For products machined directly from bar refer to ASME SA479.

(1)SECTION II PT.A 2015 EDITION

(2)SECTION II PT.A 2015 EDITION

(3)SECTION II PT.A 2015 EDITION

(4)SECTION II PT.A 2015 EDITION

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

(6)Chemical analysis only.

(7)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015

Tolleranza: ASTM A484-16 TABLE 3

Tolerance/Allowance/Tolerance

Pos. nr. Pos. nr. N. de pezzi	Oggetto Object description Description du produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Langueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Loseil. Lot nr. Lot nr.
0070	Round	8,5000	213/ 244	274318	1	19.147	714509010

Vicenza, 04/10/17

VCQU08 - MES1137504

(Mod. MCE2) VERIFICATION NUMERO/NUMERO DE VERIFICATION

Il collaudatore di stabilimento / der Werkssachverständige / Works inspector / L'agent d'usine

M. RIZZOTTO

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C199049

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

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

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8724 HOLGATE CRESCENT
L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

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Lieferzustand
Delivery state
Etat de livraison

Produttore:
Hersteller/Fabrik/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordina nr. 706006424 Stock - Canada
Bestell
Your order
Commande

Tipo di Elaborazione: E+AOD
Ernechtungsart
Mating process
Mode d'elaboration

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



Confirma ordine nr. EI17006756
Werkz./Our Order/Ref. nr.

Qualità: 316/316L
Werkstoff/Grade/Nuance

Punzone del Collaudatore:
Stempel des Werkstoffsachverständigen
Inspector's stamp/Plombon de l'essayeur

MR

Avviso di Spedizione: D-VI17027461
Lieferanzeige/Packing list/B.L.

Marca: APLM
Markenbezeichnung
Brand / Nuance

Punzonatura: 316/316L
Kennzeichnung
Marking
Marquage

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	Proveza/ Resistance Laiguma Spere, Biehe Dien, Dieke Wah Dien, Thicness Larg. diam. spere (mm)	°F	Postz. Saggio Laminier Drehmann °	Snervamento Streckgrenze Yield Stress Limite elastic Rp 0,2% k.N.	Snervamento Streckgrenze Yield Stress Limite elastic k.N.	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.N.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Zugdehnung Reduction of area Striction %	RA %	Resistenza Kerbschlagenergie Impact Value Resilience Rm	Durezza Härte Hartness Dureza HB
Valori richiesti				30	-	75	-	40	-	50	140
Anforderungen/Required values Valeurs demandées						115					223
A	12,5	68	L	41		83		57		73	170

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												
Spalte / Schmelze/Coche	Arist max	0,030	1,00	1,25	16,50	2,00	10,00	0,020	0,040	0,030	0,100	-
C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	-	-
274318	0,015	0,34	1,71	16,91	2,06	0,43	10,06	0,115	0,029	0,027	0,083	-

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.
Annealing temperature : 1940° F for 4 h/water.
Micro and macro etch test : OK
Reduction ratio = 7,6 : 1
Material is DFARS Compliant

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

Controllo antimiscelanza: OK
Verwechslungsprüfung: spektralanalytisch durchgeführt
Anmischung testing performed: OK
Contrôle antimélange fait: r.a.s.

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

Vicenza, 04/10/17

VCQ008 - MEST137504

(Mod. MCE2)

Il collaudatore di stabilimento / der Werkstoffsachverständige / Works inspector / L'agent d'usine

M. RIZZOTTI

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ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 706006424 Stock - Canada
 Bestell-
 Your order
 Commande

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

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



Conferma ordine nr. EI17006756
 Werks/Our Order/Ref nr.

Qualità: 316/316L
 Werkstoff/Grade/Alliance

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

MR

Avviso di Spedizione: D-VI17027461
 Lieferanzugs/Packing 25/B.L.

Marca: APML
 Markenbezeichnung
 Brand / Nuance

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

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.

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2008, IATF 16949 : 2016, AS 9100C

The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/ECT] Annex 1, s. 4.3 and 2014/68/EU by TUEV 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.

Vicenza, 04/10/17

vCC008 - MEST137504

(Mod. MCE2) APREDIASSONHICROFOSALUTTS1043

Il collaudatore di stabilimento / der Werksachverständige / Works Inspector / L'agent d'usine

M. RIZZOTTO

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