



272605

C178974

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

In conformità a: **EN 10204 (2004) , 3.1**

Certificato nr. **MEST030056 / 2017 /**

Nacht/According to/Seben

Prüfung/Exam/Exam

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

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

Produttore:
Hersteller/Hersteller/producer

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 702006213 40379 ASA ALLOY
Bestell
Your order
Commande

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

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



Conferma ordine nr: EI17002007
Werkz/Our Order/Ref. nr.

Qualità: 316/316L
Werkstoff/Grade/Reference

Punziona del Collaudatore:
Stempel des Werkstoffverständigen
Inspector's stamp/Polymon de l'essayeur

MR

Avviso di Spedizione: D-VI17006076
Lieferanzeige/Packing INMLL

Marcia: APLM
Markenbezeichnung
Brand / Marque

Punzonatura: 316/316L
Kesselbezeichnung
Marking
Marquage

SPECIFICHE :

Notes

Anforderungen / Requirements / Edigevens

Anforderungen / Notes / Notes

201702
VSI D 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 2016 S31600/03 A
ASTM A314 2015 S31600/03
ASTM A320 2015A B8M CLASS1
ASTM A370 2015 .
ASTM A473 2001 S31600/03 (6)
ASTM A479 2016 S31600/03 A
MIL-S-882 B/1 316/316L
NACE MR0103 2010 S31600/03 A
NACE MR0175 2009 S31600/03 A (7)
QQ-S-763 F 316/316L A

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

(1)SECTION II P.T.A 2015 EDITION

(2)SECTION II P.T.A 2015 EDITION

(3)SECTION II P.T.A 2015 EDITION

(4)SECTION II P.T.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, second edition 2009-10-15 Technical drawing 1:2011 Published 2011-06-14

Tolleranze: ASTM A484-16 TABLE 3

Tolerances/Toleranzen/Tolerances

Pos. nr. Pos. nr. No. de poste	Oggetto Object Produkt description Description de produit	Dimensioni - In Abmessungen Dimensions Dimensions	Lunghezza - In Länge Length Longitude	Colore Farbe Color Couleur	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losn. Lot no. Lot no.
0010	Round	12,0000	167/ 167	272805		5.505	631505540

Flange ②

Vicenza, 27/02/17

VCC008 - MEST030056

(Mod. MCE2)

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

M. RIZZOTTI

Pagina - 1 di 3



C178.974

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In conformità a: EN 10204 (2004) , 3.1

Certificato nr. MEST030056 / 2017 /
Prüfung/Test/Essai

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

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

Produttore:
 Hersteller/Hersteller/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 702006213 40379 ASA ALLOY
 Bestell
 Your order
 Commande

Tipo di Elaborazione: E+AOD
 Erzeugnisprozess
 Making process
 Mode d'élaboration

Marchi di Fabbrica:
 Zeichen des Lieferanten
 Trade marks
 Signes de fabrique productrice



Conferma ordine nr: EI17002007
 Werk/Our Order/Nr. ex.

Qualità: 316/316L
 Werkstoff/Grade/Alliance

Punzone del Collaudatore:
 Stempel des Werkstoffverständigen
 Inspector's stamp/Police de l'essayeur

MR

Avviso di Spedizione: D-VI17006078
 Lieferanweisung/Shipping Instruct.

Marca: APML
 Markenzeichen
 Brand / Marque

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

TEST ALLO STATO DI FORNITURA

Test on delivery condition Prüfung auf Lieferbarem produkt test a l'état de fourniture Prueba sobre el material así como entregado

TEST	Provetta / Probe Beschleunigung Length Spec. Draht Diam. Größe Weld Diam. Thickness Temp. class, cycle	°F	Post. Saggio Peening Lustre Engrenage	Snervamento Dehnung Yield Stress Umlauf stränge Rp 0,2% t.s.l.	Snervamento Dehnung Yield Stress Umlauf stränge t.s.l.	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm t.s.l.	Allungamento Dehnung Elongation Allongement		Strizione Bruchdehnung Reduction of area éctricion	Resilienza Kerndämpfung Impact Value Resilience	Durezza Härte Hardness Dureté HB	
							E 4d %	RA %				
Valori richiesti Anforderung/Required values Valeurs demandées		min max		30	-	75 115	-	40	-	50	-	140 223
A	12,5	68	L	37		82		62		74		168

TEST ALLO STATO DI FORNITURA

Test on delivery condition / Prüfung auf Lieferbarem produkt / Test a l'état de fourniture / Prueba sobre el material así como entregado

TEST	min	max
A Grain size for ASTM E112		3

Mechanical properties according to ASTM A370.

Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata / Heat Schmelze/Cast	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 %					
272605	0,016	0,31	1,73	16,77	2,07	0,46	10,05	0,147	0,030	0,023	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 HI Ozone depleting substances.
 Solution heat treated free from continuous carbide network.
 Annealing temperature: 1940°F for 5,5 h/water.
 Micro and macro etch test: OK
 Reduction ratio = 5,4 : 1
 Material is DFARS Compliant

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

Controllo entimescolanza: OK
 Vermischungsprüfung: spektroskopisch durchgeführt
 Aufschling testing performed: OK
 Contrôle entremélange fait: O.K.

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



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Lieferzustand
Delivery state
Etat de livraison

Produttore :
Hersteller/Hersteller/Hersteller

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: 702006213 40379 ASA ALLOY
Bestell
Your order
Commande

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

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



Conferma ordine nr: EI17002007
Werkst/Our OrderRef nr.

Qualità: 316/316L
Werkstoff/Grade/Reference

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

MR

Avviso di Spedizione: D-V117006076
Lieferzustand/Packing list/E.L.

Marcas: APM L
Markenbezeichnung
Grand/Markas

Punzonatura: 316/316L
Kesselschreibung
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, ISO/TS16949 : 2009, AS 9100C

The Quality Management System is Certified acc. Pressure Equipment Directive 1977/23/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.