

Acciaierie Valbruna S.p.A.



QUALITY MANAGEMENT SYSTEM
CERTIFIED BY LLOYD'S REGISTER

259352

Avviso di Spedizione: D-V113013757
Lieferanzettel/Packing list/B.L.

CERTIFICATO DI COLLAUDO
ABNAHMEPRUEFZEUGNIS
INSPECTION CERTIFICATE
CERTIFICAT DE RECEPTION
EN 10204 (2004), 3.1

C083479

36100 VICENZA (Italia) - Viale della scienza, 25 z.i.
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

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

Produttore: ACCIAIERIE VALBRUNA S.P.A.
Hersteller/Item/Usine productice

Ordine nr: 305004172 Stock - Canada
Bestell/Your order/Commande

Certificato nr: MEST344198/2013/
Prüfung/Teil/Essai

Conferma ordine nr: EI13003682
Werks/Our Order/Ref nr.

Marchio di Fabbrica:
Zeichen des Lieferwerkes
Trade mark
Sigle de fusine productice



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

Tipo di Elaborazione: E+AOD
Erbschmelzungsart/Manufact process/Mode d'elaboration

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

Specifiche:
Anforderungen / Requirements / Exigences

VSI 0 316/316L A
AMS 5653 G S31603 A
ASME SA193 2010 B8M CLASS1 (1)
ASME SA479 2010 S31600/03 A (4)
ASTM A262 2010 PRACTICE E
ASTM A320 2011A B8M CLASS1
ASTM A479 2012 S31600/03 A
NACE MR0175 2009 S31600/03 A (7)

ok
VH
7/2/13

AISI 316/316L
AMS-QQ-S-763 B 316/316L A
ASME SA276 2010 S31600/03 A (2)
ASTM A182 2012B S31600/03 A (5)
ASTM A276 2010 S31600/03 A
ASTM A370 2012 A.
MIL-S-862 B/1 316/316L
QQ-S-763 F 316/316L A

AMS 5648 L S31600 A
ASME SA182 2010 S31600/03 A (0)
ASME SA320 2010 B8M CLASS1 (3)
ASTM A193 2011A B8M CLASS1
ASTM A314 2008 S31600/03
ASTM A473 2001 S31600/03 (6)
NACE MR0103 2010 S31600/03 A

- (0) SEC.II PT.A 2010 EDITION ADD. 2011a
- (1) SEC.II PT.A 2010 EDITION ADD. 2011a
- (2) SEC.II PT.A 2010 EDITION ADD. 2011a
- (3) SEC.II PT.A 2010 EDITION ADD. 2011a
- (4) For products machined directly from bar refer to ASTM A479.
- (5) For products machined directly from bar refer to ASTM A479.
- (6) Chemical analysis only.
- (7) ANSI/NACE MR0175/ISO 15156-3, second edition 2009-10-15

- (0) For products machined directly from bar refer to ASME SA479.
- (2) SEC.II PT.A 2010 EDITION ADD. 2011a
- (4) SEC.II PT.A 2010 EDITION ADD. 2011a
- (6) Chemical analysis only.
- (7) Technical circular 1:2011 Published 2011-06-14

Qualità: 316/316L
Werkstoff/Grade/Nuance

Marca: APM L
Warenzeichnung
Branch/nuance

Tolleranza: ASTM A484-11 TABLE 3
Toleranz./Allowance/Tolerance

Punzonatura: 316/316L
Kennzeichnung/Marking/Marquage

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Produit description Descript. du produit	Dimensioni - In Abmessung Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losnr. Lot nr. Lot nr.
0020	Round	11,0000	122 / 122	259352		3.444	224904490

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/ Especimen/Carotte Larg diam. Geom. Break Diam. Fiche Wicht Diam. Thickness Larg diam. epais mm	Posto. Saggio Prove Luzerne Erschwerer 11	Snervamento Streckgrenze Yield Stress Limite elastique Rp 0,2% k.s.i.	Snervamento Streckgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Résistance à traction Rm k.s.i.	Allungamento Büchdehnung Elongation Allongement E 4d %	Strizione Erweichung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti 1 Anforderungen/Required values Valeurs demandées		min max	30	-	75 115	- 40	- 50	-	140 223
A	12,5	68 L	37		81	61	72		167

TEST	min	max
A Grain size for ASTM E112		4

1) L=lunghezza/length, T=traversale/quer, Q=Tangenziale/tangential

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	15,50 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 %			
259352	0,016	0,37	1,71	16,74	2,00	0,62	10,03	0,101	0,029	0,027	0,088			

Produced without class I-II Ozone depleting substances.
Solution heat treated free from continuous carbide network.
Annealing temperature: 1940°F for 7 h/water.
Micro and macro etch test: OK
Reduction ratio > 4 : 1
Intergranular corrosion test per ASTM A262 pract. E: ok.
Material is DFARS Compliant

S.V
VH

Vicenza, 08/05/13 VCC008 (Mod. MCE2)	Il collaudatore di stabilimento / der Werkssachverständige / Works inspector / L'agent d'usine M. Rizzotto	Pagina - 1 di 2
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Punzone del Collaudatore:
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Inspector's stamp/Pointon de l'essayeur



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

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

Controllo antimiscelanza: OK
Vermischungsprüfung: spektralanalytisch durchgeführt
Antimixing tasting performed: OK
Contrôle antimélange fait: r.a.s.

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.

The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] Annex 1, s. 4.3 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.
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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MK

<p>Vicenza, 08/05/13 VCD008 (Mod. MCE2)</p>	<p>Il collaudatore di stabilimento / der Werksachverständige / Works inspector / L' agent d' usine <i>M. Rizzotto</i></p>	<p>Pagina - 2 di 2</p>
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