



## 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: MVA PML ( MAXIVAL )  
 Markenbezeichnung  
 Brand / Nuance

Punzonatura: 316/316L  
 Kennzeichnung  
 Marking  
 Marquage

SPECIFICHE :	Note:
Anforderungen / Requirements / Exigences	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)	(0)Section II Part A 2019 EDITION For products machined directly from bar refer to ASME SA479.
ASME SA193 2019 B8M CLASS 1 (1)	(1)Section II Part A 2019 EDITION
ASME SA276 2019 S31600/03 A (2)	(2)Section II Part A 2019 EDITION
ASME SA320 2019 B8M CLASS 1 CLASS1 (3)	(3)Section II Part A 2019 EDITION
ASME SA479 2019 S31600/03 A (4)	(4)Section II Part A 2019 EDITION
ASTM A182 2021 S31600/03 A (5)	(5)For products machined directly from bar refer also to ASTM A479.
ASTM A193 2020 B8M CLASS 1	
ASTM A262 PR. E 2015 316/316L (6)	(6)Reapproved 2021
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)	(7)Chemical analysis only.
ASTM A479 2020 S31600/03 A	
MIL-S-862 B/1 316/316L	
NACE MR0103 2015 S31600/03 A (8)	(8)ANSI/NACE MR0103/ISO 17945 November 23, 2015
NACE MR0175 2015 S31600/03 A (9)	(9)ANSI/NACE MR0175/ISO 15156-3, third edition November 23,2015
QQ-S-763 F 316/316L A	

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
--	---	---	------------------

C308519  
1/3



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

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

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  
 Erweichungsart: Melting process  
 Mode d'elaboration:

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



Conferma ordine nr: EI21012768  
 Werk/Our Order/Ref nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

Punzone del Collaudatore:  
 Stempel des Werksachverantwärtigen  
 Inspector's stamp/Plignon de l'essayeur

MR

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

Marca: MVAPML (MAXIVAL)  
 Markenbezeichnung:  
 Brand / Nuance

Punzonatura: 316/316L  
 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	Provetta/ Probe/échantillon/Specimen/Éprouvette Long. diam. Spess. Breite Diam. Disto 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 in Anlage 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

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 18/11/2021 VCCQ052 - MEST840346	Direzione Qualità Qualitätsmanagement/Quality Management/Qualité R.BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P.MESSORI	Pagina 2 di 3

1208519 743



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

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

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

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

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

Produttore :  
 Hersteller/Hersteller/Usine productrice

**ACCIAIERIE VALBRUNA S.P.A.**

Ordine nr: 110009039 Stock - Canada  
 Bestell Your order  
 Commande

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

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



Conferma ordine nr: EI21012768  
 Works/Our Order/Ref nr.

Qualità: 316/316L  
 Werkstoff/Grade/Nuance

Punzone del Collaudatore:  
 Stempel des Werkstoffvorständigen  
 Inspector's stamp/Pointon 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

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.

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D			
Vicenza, 18/11/2021 VCQ052 - MEST840346	Direzione Qualità Qualitätsmanagement/Quality Management/Gestion Qualité R. BERTELLI	Direzione Prodotto Produktmanagement/Product Management/Direction Produit P. MESSORI	Pagina 3 di 3

C308519 3/3