



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
 Telefono 0444.883211 - Fax 0444.883838
 Stab.: 36100 BOLLANO (Italia) - Via A. Volta, 437
 Telefono 0471.924111 - Fax 0471.924497

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

In conformità a: **EN 10204 (2004) , 3.1**
 Nach/According to/Selon

Certificato nr. **MEST009237 / 2017 /**
 Fertigung/Fabrik/Casei

Cliente / Besteller/Kunden/Client
VALBRUNA STAINLESS INC.
 2400 TAYLOR STREET WEST
 46801 - FORT WAYNE, IN 46801 - US

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

Produttore:
 Hersteller/Hersteller/Usine producer

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **51793 STOCK HOUSTON**
 Bestel:
 Your order
 Commande

Tipo di Elaborazione: **E+AOD**
 Erzeugnisbezeichnung:
 Making process:
 Mode de fabrication

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



Conferma ordine nr: **E16011718**
 Werk/Our Order/Nr.

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

Punzone del Collaudatore:
 Stempel des Werkstoffprüfingen:
 Inspector's stamp/Plaque of the Inspector

MR

Avviso di Spedizione: **D-VI17001957**
 Lieferanfrage/Packing list/BL.

Marcia: **APML**
 Werkbezeichnung:
 Brand / Marque

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

SPECIFICHE :

Anforderungen / Requirements / Exigences

Notes

Anforderungen / Notes / Notes

VSI 0 316/316L A
 AISI 316/316L
 AMS 5648 M S31600 A
 AMS 5653 H S31603 A
 AMS-QQ-S-769 D 316/316L A
 ASME SA182 2015 S31600/03 A (0)
 ASME SA193 2015 B8M CLASS1 (1)
 ASME SA276 2016 S31600/03 A (2)
 ASME SA320 2015 B8M CLASS1 (3)
 ASME SA478 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 2016A B8M CLASS1
 ASTM A370 2015
 ASTM A473 2001 S31600/03 (6)
 ASTM A478 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-769 F 316/316L A

(0)SECTION II PTA 2015 EDITION For products machined directly from bar refer to ASME SA478.

(1)SECTION II PTA 2015 EDITION

(2)SECTION II PTA 2015 EDITION

(3)SECTION II PTA 2015 EDITION

(4)SECTION II PTA 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

Tolleranza: ASTM A484-16 TABLE 3

Tolerances/Dimensions/Tolerance

Pos. nr. Pos. nr. No. de poste	Oggetto Objekt Parti / description Description de produit	Dimensioni - In		Lunghezza - In Länge Longueur	Cassa Kasten Steel Coffre	Pezzi Stücke Pièces Boîtes	Peso - LB Gewicht Poids	Lotto nr. Lose Lot n.
		mm	inch					
0010	Round	8,5000		230/ 243	271693	2	7.877	623511040

Vicenza, 20/01/17
 VCC006 - MEST009237
 (MCC, MCC2)

Il collaudatore di stabilimento / der Werkstoffprüfingenige / Works Inspector / L'agente d'ordine

M. RIZZOTTO

Pagina - 1 di 3

From: TK Materials CA, Ltd.

Cust. M2M MACHINING

Del.: 2405156849

CstAr

CstOr 2017-736

Wgt.: 72 LB

Date 04/13/2017



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
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CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: **EN 10204 (2004), 3.1**
 Nach/According to/Selon

Certificato nr. **MEST009237 / 2017 /**
 Prüfng/Inspection

Clients / Besteller/Prezisező/Sient
VALBRUNA STAINLESS INC.
 2400 TAYLOR STREET WEST
 46801 - FORT WAYNE, IN 46801 - US

Stato di fornitura: **Forged - Annealed FORGED**
 Lieferzustand
 Delivery status
 État de livraison

Produttore:
 Hersteller/Herstellers/Produttore

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **51793 STOCK HOUSTON**
 Bestell / Your order / Contrainte

Tipo di Elaborazione: **E+AOD**
 Endbearbeitung
 Milling process
 Mode d'élaboration

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



Confirma ordine nr: **E16011718**
 Wir bestätigen Ihre Bestellung

Qualità: **316/316L**
 Werkstoff/Qualitätsstufe

Funzione del Collaudatore:
 Bearbeiter der Werkstoffprüfung
 Inspector's stamp/Prüfung de l'inspecteur

MR

Avviso di Spedizione: **D-VII7001957**
 Lieferzustand/Packing list/F.L.

Marcia: **APML**
 Markenbezeichnung
 Brand / Marque

Funzionatura: **316/316L**
 Verschleißung
 Milling
 Montage

TEST ALLO STATO DI FORNITURA												
Test on delivery condition / Prüfung auf Lieferzustand / test a l'état de fourniture / Prueba sobre el material así como entregado												
TEST	Prova/Prüfung/Prüfung/Prüfung Legation/Prüfung Materialeigenschaften Mech. Prop. / Eigenschaften Leg. / Eigenschaften	°F	Posit. / Negativ / Prüfung / Prüfung	Shervamento / Shervamento / Prüfung / Prüfung Yield Stress / Yield Stress / Prüfung / Prüfung Rp 0,2% / Rp 0,2% / Prüfung / Prüfung kN / kN / Prüfung / Prüfung	Shervamento / Shervamento / Prüfung / Prüfung Tensile Strength / Tensile Strength / Prüfung / Prüfung Rm / Rm / Prüfung / Prüfung kN / kN / Prüfung / Prüfung	Resistenza / Resistenz / Prüfung / Prüfung Tensile Strength / Tensile Strength / Prüfung / Prüfung Rm / Rm / Prüfung / Prüfung kN / kN / Prüfung / Prüfung	Allungamento / Allungamento / Prüfung / Prüfung Elongation / Elongation / Prüfung / Prüfung E4d / E4d / Prüfung / Prüfung %	Strizione / Strizione / Prüfung / Prüfung Reduction of area / Reduction of area / Prüfung / Prüfung %	RA	RA	Durezza / Härte / Prüfung / Prüfung Rockwell / Rockwell / Prüfung / Prüfung C / C / Prüfung / Prüfung HB	
Valori richiesti		min		30	-	75	-	40	-	50		140
		max				115						223
A	12,5	68	L	39		84		61		72		167

TEST ALLO STATO DI FORNITURA			
Test on delivery condition / Prüfung auf Lieferzustand / Test a 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												
Chemical composition/Chemical Analysis/Analyse chimique												
Order Heat / Schmelze/Coche	min - max / 0,030	1,00	1,25	16,50	2,00	10,24	10,24	0,030	0,030	0,030	0,100	
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	
271693	0,020	0,32	1,77	16,65	2,07	0,37	10,00	0,183	0,030	0,023	0,082	

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 gezeigten Anforderungen sind erfüllt.
 The material has been furnished in accordance with the requirements
 Les caractéristiques de la livraison sont satisfaisantes.

Controllo antiriscossolenza: OK
 Vorwärtigeprüfung auf Spaltkorrosion durchgeführt
 Anticorrosion testing performed OK
 Contrôle antiriscossolenza fait: OK

Controllo visivo e dimensionale: soddisfa le esigenze
 Beisichtigung und Dimensionierung der Bauteile
 Visual inspection and dimensional satisfactory
 Contrôle visuel et dimensionnel satisfaisant

Vicenza, 20/01/17 V00003 - MEST009237 (Mod. MCE2)	Il collaudatore di stabilimento / der Werkssachverständiger / Works Inspector / L'agente d'usine M. RIZZOTTI	Pagina - 2 di 3
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From: TK Materials CA, Ltd.
 Cust. M2M MACHINING
 CstAr
 Wgt.: 72 LB

Del.: 2405156849
 CstOr 2017-736
 Date 04/13/2017

Thomas Sanchez



Acciaierie Valbruna S.p.A.

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 Telefono: 0471.924111 - Fax: 0471.924487

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

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

Certificato nr. **MEST009237 / 2017 /**
 Prüfungsbefehl

Cliente / Esportatore/Purchaser/Client
VALBRUNA STAINLESS INC.
 2400 TAYLOR STREET WEST
 48801 - FORT WAYNE, IN 46801 - US

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

Produttore:
 Hersteller/Manufacturer

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **51793 STOCK HOUSTON**
 Bestell
 Your order
 Commande

Tipo di Elaborazione: **E+AOD**
 Erzeugnisart
 Making process
 Type of elaboration

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



Conferma ordine nr: **EJ16011718**
 WerkAuftrag/Order Ref. nr.

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

Punzone del Collaudo:
 Geprüft durch Werkstoffprüfstelle
 Inspector's stamp/Prüfer des Lieferanten

MR

Avviso di Spedizione: **D-V117001967**
 Lieferungs/Packing list/B.L.

Marcia: **APML**
 Markenbezeichnung
 Brand/Markenname

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

Metal 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 97/23/EC Annex 1, 4.4.5 and 2014/68/EU 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 Products.

Vicenza, 20/01/17
 VCD008 - MEST009237
 (Mod. MCE2)

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

M. RIZZOTTI

Pagina - 3 di 3

From: TK Materials CA, Ltd.

Cust. M2M MACHINING

Del.: 2405156849

CstAr

CstOr 2017-736

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Date 04/13/2017