

242233

# Acciaierie Valbruna S.p.A.



**CERTIFICATO DI COLLAUDO**  
**ABNAHMEPRUEFZEUGNIS**  
**INSPECTION CERTIFICATE**  
**CERTIFICAT DE RECEPTION**  
**EN 10204 , 3.1**

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.  
 Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4  
 Cliente / Besteller/Purchaser/Client  
**VALBRUNA CANADA LTD**  
 8724 HOLTGATE CRESCENT  
 CDN-MILTON, ONT L5T 5Z1-CAN

Avviso di Spedizione: D-VI05008477  
 Lieferanzeige/Packing list/B.L.

Certificato nr: MEST336496/2006/  
 Prüfung/Test/Essai

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

Ordine nr: 512-1508/STOCK (1)  
 Bestell/Your order/Commande

Conferma ordine nr: EI05010877  
 Wechsel/Our Order/Ret. nr.

Oggetto Prove: - Annealed Peeled  
 Prüfgegenstand/Item Inspected/Finissage

Tipo di Elaborazione: E+AOD  
 Erzeugnisverfahren/Manufacturing process/Mode d'elaboration

Marchio di Fabbrica:  
 Zeichen des Liefermarktes  
 Trade mark  
 Sigle de l'usine productrice



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



Specifiche:  
 Anforderungen / Requirements / Exigences  
**VAL CANADA 2 316/316L A**  
**ASME SA182 2004 S31600/03 (1)**  
**ASME SA479 2004 S31600/03 (3)**  
**ASTM A262 2002A PRACTICE E**  
**ASTM A320 2005A B8M**  
**NACE MR0175-2 2003 S31600/03 (5)**  
 (1) SEC.II PT.A 2004 EDITION ADD.2005  
 (3) SEC.II PT.A 2004 EDITION ADD.2005  
 (5) \* ISO 15156-3

**AMS 5648 K S31600**  
**ASME SA193 2004 B8M (1)**  
**ASTM A182 2005A S31600/03 (4)**  
**ASTM A276 2005A S31600/03**  
**ASTM A479 2005A S31600/03**  
**QQ-S-783 F 318/316L**

**AMS 5653 F S31603**  
**ASME SA320 2004 B8M (2)**  
**ASTM A193 2005 B8M**  
**ASTM A314 97 S31600/03**  
**MIL-S-862 B/1 316/316L**

(1) Chemical analysis only and mechanical properties.  
 (2) SEC.II PT.A 2004 EDITION ADD.2005  
 (4) Chemical analysis only.

Qualità: T-316L  
 Werkstoff/Grade/Qualite

Marca: MVAPML MAXIVAL  
 Markenbezeichnung/Brand/Qualite

Punzonatura: T-316L  
 Kennzeichnung/Marking/Marquage

| Pos. nr.<br>Item nr.<br>Nr. de poste | Oggetto<br>Gegenstand<br>Product description<br>Descr. de produit | Dimensioni - In<br>Abmessungen<br>Dimension<br>Dimension | Tolleranza<br>Tolerance<br>Allowance<br>Tolerance | Lunghezza - In<br>Länge<br>Length<br>Longueur | Colata<br>Schmelze<br>Heat<br>Coulée | Pezzi<br>Splices<br>Pieces | Peso - LB<br>Gewicht<br>Weight<br>Poids | Lotto nr.<br>Losnr.<br>Lot nr.<br>Lot nr. |
|--------------------------------------|---|--|---|---|--------------------------------------|----------------------------|---|---|
| 0020                                 | Round   | 11,0000  | 484-05A   | 122 / 129                                     | 242233                               |                            | 6.987                                   | 535600950                                 |

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

Controllo antimiscelanza: OK  
 Verwechslungsprüfung: spektroskopisch durchgeführt  
 Antimixing testing performed: OK  
 Contrôle antimélange: satisfaisant

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

| TEST | Prova/Prove<br>Essays/Experiments<br>Längs Span. Dicke<br>Wahl Diam. Thickness<br>Läng. diam. epais | Temperatura<br>Temperatur<br>Temperature<br>°F | Snervamento<br>Streckgrenze<br>Yield Stress<br>Ultime elastiche<br>Rp 0,2%<br>k.s.l. | Snervamento<br>Streckgrenze<br>Yield Stress<br>Ultime elastiche | Resistenza<br>Zugfestigkeit<br>Tensile strength<br>Resistance à traction | Allungamento<br>Bruchdehnung<br>Elongation<br>Allongement | Strizione<br>Einengung<br>Reduction of area<br>Striction | Resilienza<br>Hartchlagwert<br>Impact Value<br>Resilience | Durezza<br>Härte<br>Hardness<br>Dureté |
|------|---|--|--|---|--|---|--|---|--|
|      | Valori richiesti 1<br>Anforderungen/Required values<br>Valeurs demandées                            | min<br>max                                     | 30   | -   | 75<br>115  | -<br>40   | -<br>50  | -   | 140<br>223                             |
| A    | 12,5  | 68<br>L  | 39   | -   | 83   | 65  | 76   | 168   |  |

Grain size for ASTM E112 : 4

1) L=longitudinale/long, Q=transversale/short, T=Temperatur/temperature

## Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

| Colata /Heat<br>Schmelze/Coulée | min -<br>max 0,030 | 1,00 | 1,25<br>2,00 | 16,00<br>18,00 | 2,00<br>3,00 | 1,00 | 10,00<br>14,00 | -     | -     | 0,040 | 0,030 | 0,100 | - | - | - |
|---------------------------------|--------------------|------|--------------|----------------|--------------|------|----------------|-------|-------|-------|-------|-------|---|---|---|
| 242233                          | C %                | Si % | Mn %         | Cr %           | Mo %         | Cu % | Ni %           | Co %  | P %   | S %   | N %   |       |   |   |   |
|                                 | 0,018              | 0,55 | 1,67         | 16,85          | 2,11         | 0,61 | 10,18          | 0,150 | 0,031 | 0,028 | 0,077 |       |   |   |   |

Produced without class I-II Ozone depleting substances.  
 Solution heat treated free from continuous carbide network.  
 Annealing temperature: 1960 °F for 7 H/H2O.  
 Micro and macro etch test: OK  
 Intergranular corrosion test per ASTM A262 pract. E: ok.

Melted and manufactured in Italy No welding or weld repair Material free from Mercury or radio-activity contamination  
 The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] Annex 1, a, 4.3 by TUEV and LLOYD'S

1514136

|                                 |  |                 |
|---------------------------------|--|-----------------|
| Vicenza, 30/03/06<br>Mod/VCO008 | Il collaudatore di stabilimento / der Werksachverständige / Works inspector / L'agent d'usine<br>M. Rizzotto | Pagina - 1 di 1 |
|---------------------------------|--|-----------------|