



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. MEST249416 / 2018 / 1
Prüfung/Test/Essai

Cliente / Besteller/Purchaser/Client
SIN GHEE HUAT CORPORATION LTD
32 PENHAS ROAD, HX01-01
208191 - SINGAPORE 208191 - SG

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

Produttore:
Hersteller/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: VSL2017-263/P001779
Bestell
Your order
Commande

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

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



Conferma ordine nr: EI17012119
Works/Our Order/Ref nr.

Qualità: 410
Werkstoff/Grade/Nuance

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

MR

Avviso di Spedizione: D-VI18014426
Lieferanzeige/Packing list/B.L.

Marca: VAL1
Markenbezeichnung
Brand / Nuance

Punzonatura: 410
Kennzeichnung
Marking
Marquage

SPECIFICHE :

Anforderungen / Requirements / Exigences

Note:

Aufzeichnungen / Notes / Notes

410-RB-HRA-K12 01 410 A (0)
ASME SA276 2017 S41000 A (1)
ASME SA479 2017 S41000 A (2)
ASTM A276 2017 S41000 A
ASTM A370 2017
ASTM A479 2018 S41000 A

(0)SGH-410-RB-HRA-K12
(1)Section II Part A 2017 EDITION
(2)Section II Part A 2017 EDITION



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		Tolleranza: k12						
		Tolleranza/Allowance/Tolerance						
Pos. nr.	Oggetto	Dimensioni - mm		Lunghezza - mm	Colata	Pezzi	Peso - KG	Lotto nr.
Pos. nr. Item nr. Nr. de poste	Gegenstand Product description Descrip. du produit	Abmessungen Dimension Dimension		Länge Length Longueur	Schmelze Heat Coulée	Stückzahl Pieces Pièces	Gewicht Weight Poids	Losnr. Lot nr. Lot nr.
0010	Round	88,900		6030/ 6030	275722	4	1163,0	729805780

TEST ALLO STATO DI FORNITURA

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

TEST	Provetta/ Probe Specimen/Eprouvette Larg. diam. Spess. Breite Diam. Dicke Width Diam. Thickness Larg. diam. epais mm	°C	Posiz. Saggio Probenlage Location Emplacement	Snervamento Streckgrenze Yield Stress Limite élastique Rp 0,2% N/mm2	Snervamento Streckgrenze Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm N/mm2	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction %	RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti Anforderungen/Required values Valeurs demandées		min max		275	-	485	-	20	-	45	-
A	12,5	20	L	380		625	34	71			182

Test On Delivering Condition

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

TEST	min	max
A HRC		22,0

Sample quenched - Hardenability

Tipo Trattamento	Temperatura	Raffreddamento	Permanenza	Tipo Trattamento	Temperatura	Raffreddamento	Permanenza	Tipo Trattamento	Temperatura	Raffreddamento	Permanenza	
Wärmebehandlung Heat Treatment Traitement Thermique	Temperatur Temperature Température	Abkühlung Cooler Refrondissement	Haltezeit Permanence Maintien	Wärmebehandlung Heat Treatment Traitement Thermique	Temperatur Temperature Température	Abkühlung Cooler Refrondissement	Haltezeit Permanence Maintien	Wärmebehandlung Heat Treatment Traitement Thermique	Temperatur Temperature Température	Abkühlung Cooler Refrondissement	Haltezeit Permanence Maintien	
Quenching	950°C	AIR	30'									
1) L=longitudinale/längs, T=transversale/quer, Q=Tangenziale/tangentiale												
TEST	Provetta/ Probe Specimen/Eprouvette Larg.diam Spess. Breite Diam. Dicke Width Diam. Thickness Larg. diam. epais mm	°C	Posiz. Saggio Probenlage Location Emplacement 1)	Snervamento Streckgrenze Yield Stress Limite elastique	Snervamento Streckgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Resistance à traction	Allungamento Bruchdehnung Elongation Allongement		Strizione Einschnürung Reduction of area Striction		Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HRC
	Valori richiesti Anforderungen/Required values Valeurs demandées		min max	-	-	-	-	-	-	-	35,0	
R	9 525	20	L									48,2

Vicenza, 16/07/18

VCQ008 - MEST277157

(Mod. MCE2) V03P07040405074817FA2ESFC61A3864

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

M.RIZZOTTO

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Erschmelzungsart
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Mode d'elaboration

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Werkstoff/Grade/Nuance

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Mechanical properties according to ASTM A370.

Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata / Heat Schmelze/Coulée	min	0,080	-	-	11,50	-	-	-	-	-	-	-	-	-	-	-
	max	0,150	1,00	1,00	13,50	-	0,040	0,030	-	-	-	-	-	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	P %	S %									
275722	0,145	0,42	0,74	12,31	0,0317	0,018	0,022									

Ultrasonic volumetric test according to ASTM A388 : pass.

Reduction ratio = 4,6 : 1

Material annealed 800° C for 10 h/air cooled.

Allegati / Anlagen / Enclosure / Attachments :

GT18000440

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

Controllo antimescolanza: OK
Verwechslungsprüfung: spectralanalytisch durchgeführt
Antimixing testing performed: OK
Contrôle antimélange fait: r.a.s.

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

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 : 2015, IATF 16949 : 2016, AS 9100D

The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] 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.

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[Signature]

SIN GHEE HUAT CORPORATION LTD.

Vicenza, 16/07/18

VCC008 - MEST277157

(Mod. MCE2) WSPSE7624K09037489FAE7E9FC651A3644

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

M. RIZZOTTO *[Signature]*

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Acciaierie
Valbruna S.p.A.
36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

CERTIFICATO Certificate - Zeugnis - Certificat **N° GT18000440**

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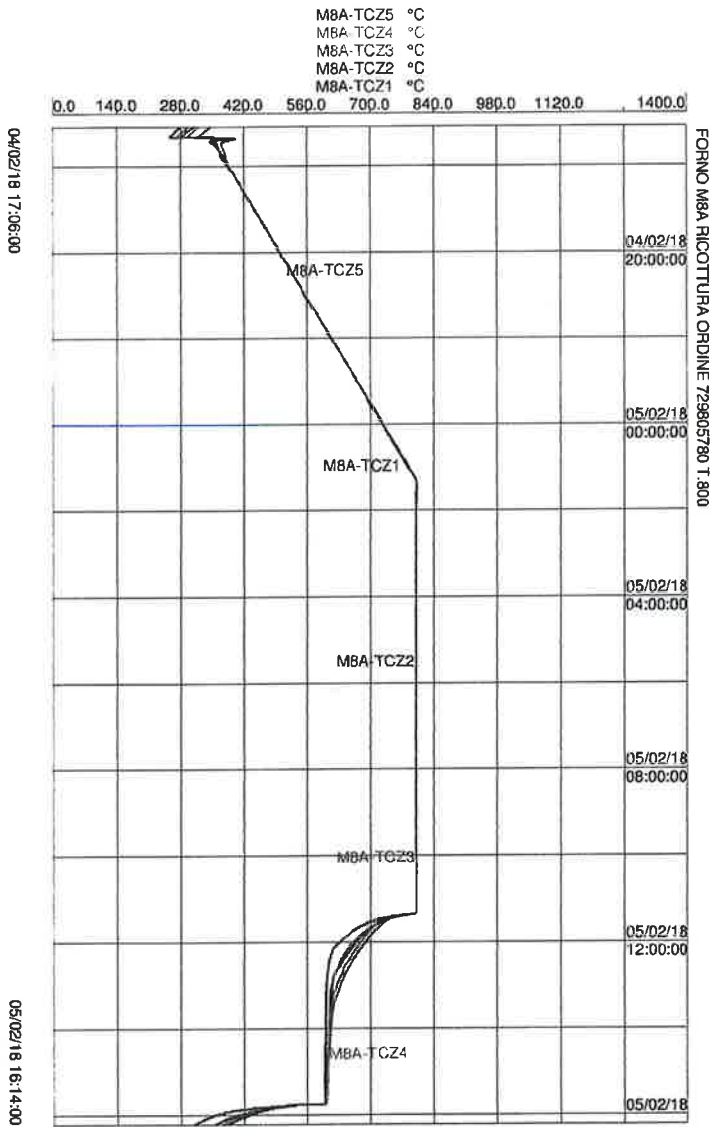
Diagrammi di trattamento termico
Heat Treatment charts - Waermebehandlungs diagramm - Diagramme de traitement thermique

N° LOTTO : 729805780
Note Dettaglio :

Note:
Notes

TEMPERATURE (°C)

TIME (HOURS)



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SIN GHEE HUAT CORPORATION LTD.



Approved by

Acciaierie Valbruna S.p.A.

Sede Amministrativa e Direzione Generale: Viale della Scienza, 25 - 36100 VICENZA (ITALIA)
Sede Legale: Via Volta, 4 - 39100 Bolzano - R.E.A. n.191346 - P.IVA IT 02866820240
Registro Imprese e Codice Fiscale 01595620061 - Capitale Sociale € 200 000 000 int. vers.



Estimeed
SIN GHEE HUAT CORPORATION LTD
Singapore

Vicenza, 19/09/18

Re: Molybdenum content for grade 410

With reference to the heats listed in the attachment and concerning grade AISI 410, we confirm that Mo content for all of them is 0,60% max.

Best Regards,

ACCIAIERIE VALBRUNA S.p.A.
GARANZIA QUALITA'
Marcello Fizzotto

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SIN GHEE HUAT CORPORATION LTD.

Stabilimenti:

36100 VICENZA (ITALIA) - Viale della Scienza, 25
Tel. 39 0444 968211 - Fax 39 0444 961836 - C.P. 704
www.acciaierie-valbruna.com - E-mail: info@valbruna.it

39100 BOLZANO (ITALIA) - Via A. Volta, 4
Tel. 39 0471 924111 - Fax 39 0471 924197

Depositi:

20032 CORMANO (MI) - Via Bizzozzero, 125 - Tel. 02 66106550 - FAX 02 66100654
25100 BRESCIA - Via Perotto, 17 - Tel. 030 2681224 2681343 - Fax 030 2680374
40012 CALDERARA DI RENO (BO) - Via Torretta, 58 - Tel. 051 727562 - Fax 051 729352
10040 LEINI (TO) - Strada del Fornaro, 112 - Tel. 011 9969586/87/88 Fax 011 9969025
60027 OSIMO (AN) - Via Chiusa, 6 - Fax Aspio Terme - Tel. 071 7108956 - Fax 071 7108957
43010 BIANCONESE DI FONTEVIVO (PR) - Via Aline, 10 - Tel. 0521 615260 - Fax 0521 615170
31050 MONASTIER DI TREVISO (TV) - Via Sardo, 10 - Tel. 0422 898129 - Fax 0422 791169

Acciaierie Valbruna S.p.A.



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No	Size	Heat No
1	45,00	264327
2	50,80	265531
3	254,00	265881
4	88,90	266249
5	215,90	266532
6	50,80	266777
7	114,30	267260
8	177,80	267611
9	63,50	269492
10	127,00	269712
11	101,60	269746
12	76,20	270493
13	190,50	271512
14	95,25	273008
15	63,50	273008
16	304,80	273245
17	45,00	273375
18	215,90	274020
19	139,70	274687
20	50,80	275049
21	88,90	275609
22	76,20	275722
23	101,60	275722
24	25,40	275723
25	120,65	427229
26	152,40	427733
27	152,40	427903

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