

Super Materials Company

PO 030519 / PO / SM - H3H

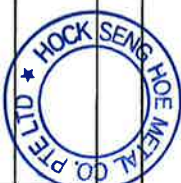
Lot 1/24/17

QINHUANGDAO GUOYANG STEEL CO.LTD.

MILL'S CERTIFICATE

TO	HOCK SENG HOE METAL CO PTE LTD 8 BOON LAY WAY AT TRADE HUB 21, HEX 05-12 SINGAPORE 609964												
CERTIFICATE NO:	SGSTEHS0397-1	DESTINATION:	JURONG PORT OF SINGAPORE										
GOODS:	PRIME EQUAL ANGLE	TOTAL:	63BUNDLES, 214.170MT										
SPECIFICATION: A36		REFERENCE NO.	SGSTEHS0397										
THIS IS TO CERTIFY THAT THE PRODUCTS HAVE BEEN INSPECTED AS PER RELVANT SPECIFICATION AS STIPULATED IN THE ORDER AND QUALIFIED WITH ALL THE DATA IN COMPLIANCE WITH SPECIFICATION.													
SHIPPING MARKS	HEAT NO	SIZE	QUANTITY		Chemical Composition %					Mechanical Properties			Cold Bend
			BUNDLES	QUANTITY (MTS)	C	Si	Mn	P	S	Y.S (Mpa)	T.S (Mpa)	EL. (%)	
	140323A-03	30X30X3.0MMX6MX1.373KG/M	4	9.890	0.20	0.39	0.74	0.025	0.026	271	420	38	OK
	140323A-04	38X38X3.0MMX6MX1.756KG/M	3	10.110	0.22	0.28	0.70	0.024	0.027	272	418	37	OK
	140323A-06	38X38X6.0MMX6MX3.333KG/M	3	10.800	0.19	0.37	0.72	0.026	0.025	270	420	39	OK
	140323A-11	50X50X5.0MMX6MX3.770KG/M	9	32.570	0.22	0.39	0.73	0.027	0.026	272	421	38	OK
	140323A-12	50X50X6.0MMX6MX4.465KG/M	9	32.550	0.24	0.35	0.74	0.028	0.025	270	415	37	OK
	140323A-15	65X65X5.0MMX6MX4.981KG/M	7	20.920	0.22	0.40	0.71	0.030	0.026	272	416	38	OK
	140323A-16	65X65X6.0MMX6MX5.912KG/M	7	20.860	0.23	0.38	0.73	0.025	0.025	271	421	39	OK
	140323A-21	75X75X5.0MMX6MX5.818KG/M	3	10.470	0.23	0.36	0.74	0.026	0.026	271	421	37	OK
	140323A-22	75X75X6.0MMX6MX6.905KG/M	6	22.370	0.20	0.39	0.72	0.027	0.025	270	420	39	OK
	140323A-24	75X75X9.0MMX6MX10.085KG/M	6	21.780	0.22	0.39	0.71	0.028	0.025	271	423	38	OK
	140323A-28	100X100X6.0MMX6MX9.366KG/M	3	10.960	0.20	0.35	0.75	0.028	0.025	273	417	37	OK
	140323A-31	100X100X10MMX6MX15.12KG/M	3	10.890	0.22	0.40	0.70	0.029	0.026	272	416	38	OK
REMARKS: A. CONDITION OF SUPPLY: HOT ROLLED													
B. MATERIALS DELIVERED ON THEORETICAL WEIGHT.													
MANUFACTURER: QINHUANGDAO GUOYANG STEEL CO.LTD.				INSPECTOR: LUCY				DATE: MAR. 20, 2017					

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Super Materials Company Po030519 / Po / SM - HSH



S&AH Besteel
522, Oehang-ro, Gunsan-si,
Jeollabuk-do, Korea (573-711)

MATERIAL CERTIFICATE

ACCORDING TO EN10204:2004, Type 3.1

Date	: 2018-07-06	Specification	: S355J2G3	Size	(mm)	: 180
Cert. No.	: 201807-004441	Steel Grade	: S355J2G3	Length	(mm)	: 6,000
Customer	:	Shape of Product	: Round Bar	Weight	(kg)	: 7,230
Heat No.	: B44320	Delivery Condition	: As Rolled, Nor.	Quantity	(pcs)	: 6
Serial No.	:	Melting Process	: EAF-LF-VDRH-CC			

Inspection Items	Chemical Composition (wt. %)											
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Al	Ti
Spec. Min.	%100	%100	%100	%1000	%1000	%100	%100	%100	%100	%100	%1000	%100
Spec. Max.												
Load Result	18	35	136	16	25	12	4	10	2	1	15	0

Inspection Items	Charpy Impact Test (J) (Sample Location : 1/2" Below of Surface)				Inspection Items	Heat Treatment Hardness (HB) (Sample Location : 1/2" Below of Surface)	
	TEMP. (°C)	L-IV	L-IV	L-AVERAGE		1/2" BS	
Spec. Min.	-20	27	27	27	Spec. Min.		
Spec. Max.	-20				Spec. Max.		
Result	-20	187.80	140.82	196.23	Result	152	

Inspection Items	Tensile Test (MPa) (Sample Location : 1/2" Below of Surface)			
	TS	YS	EL(%)	ROA(%)
Spec. Min.	490	355	22	
Spec. Max.	630			
Result	535.64	361.96	34.13	65.62

Inspection Items	Surface Inspection (mm)		Inspection Items	Ultrasonic Test
	Min.	Max.		
Spec. Min.			Spec. Min.	
Spec. Max.			Spec. Max.	
Result	GOOD	GOOD	Result	GOOD

<<Remark>> * MADE IN KOREA / * P.O.# : SB1804/098

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We hereby certify that the material described herein has been made in accordance with the rules of the contract.
Our quality system is certified in accordance with IA TF 16949:2016 / ISO 9001:2015 by KSA
Technical informations herein provided by the mill. Vt He makes no warranty of any kind with respect to the fitness of the steel for a specific application.

Certified by **S.T. Park**
Manager of Quality Assurance Dept.

Super Materials Company

PO 030519 / PO / SM - HSH

Certificate No.	F190225012
Date:	FEB 15, 2019

檢驗證明書
MILL'S TEST CERTIFICATE
EN 10204/3.1

ORIGINAL

NO. 122 INDUSTRIAL ROAD, TOUNJ CITY
YUN-LIN 840, TAIWAN
TEL: +886-5-5571569 FAX: +886-5-5571339
Website: www.froch.com

彰源企業股份有限公司
FROCH ENTERPRISE CO., LTD.

Customer : Invoice No. PO 802076 Contract No. T/T L/C No.		ASTM A312-2018, ASME SA 312 (2015 SECTION II PART A), ANSI B36.19 & B36.10	
FEX20182843		Specification	
Description		Item No.	Size
STAINLESS STEEL WELDED PIPE		5	2" X SCH 40S
		6	4" X SCH 10S
		7	5" X SCH 10S
		Type	TP 316/TP 316L ALV070344
		Heat No.	ALV070344
		QTY (PC)	200,000
		Weight (Kg)	50,000
		Heat Treatment	1065
		Water Quenched	1065
		Surface Finish	PICKLED
		Hydrostatic Test (Mpa)	16.00
		Remark	7.00 6.00

Chemical Composition (%)									
Item No.	C	Si	Mn	P	S	Cr	Ni	Mo	N
Min.	0.035	1.066	2.00	0.045	0.030	18.00	14.00	3.00	---
Max.	0.025	0.610	1.08	0.037	0.001	18.03	10.03	2.03	---
6	0.019	0.510	1.17	0.033	0.001	16.70	10.10	2.08	---
7	0.017	0.530	1.15	0.032	0.001	16.80	10.10	2.07	---

Mechanical Test									
Item No.	5	6	7						
Tensile	649.66	638.00	660.00						
Yield	349.00	375.00	375.00						
Elongation	53.00	52.00	52.00						
Direction	Longitudinal	Longitudinal	Longitudinal						
Width of specimen	25	25	25						
Gauge length	50.00	50.00	50.00						
Hardness HRC	87.00	89.00	88.00						
Flattening Test	GOOD	GOOD	GOOD						
Bend Test	No Crack	No Crack	No Crack						
Flaring Test	No Crack	No Crack	No Crack						

NOTES:
1. The material described herein is certified for no radiation contamination by original Material Manufacturer.
2. The tolerance of chemical composition is according to ASTM A440
3. Heat treatment: Solution annealed and quenched in water.
4. 1ksi = 1000Psi, 1Mpa = 1 N/mm² = 0.145038 Ksi.
5. Visual inspection (Surface) and Dimension Check: Acceptable
6. We hereby certify that material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification.

HYDROSTATIC TEST IN ACCORDANCE TO ASTM A393/A593M.
HARDNESS TEST MADE MRO757501515156-3.
100% PMI TEST GOOD.

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HOCK SENG HOE METAL CO. PTE. LTD.

APPROVED CERTIFICATES:
1. OMS according to ISO 9001 TUV Cert No: 01 128923
2. EMS according to ISO 14001 TUV Cert No: 0982007
3. PED (TUV Cert No: 01 202 TUV-08 0145)
4. Lab management system according to ISO/IEC 17025 TAF Cert No: 18301
5. Lab management system according to ISO/IEC 17025 TAF Cert No: 22711

QA Manager / Work Inspector: Lai Yu Lin

Q-Y-Q-33-02-E