

INSPECTION CERTIFICATE

Report No.	2015081340
Order No.	T04209
S/C No.	WSF-50950
Invoice No.	WSF-5115
Test Date	Jul/17/2015
Issue Date	Aug/25/2015

Customer	CHUN YU WORKS (U.S.A) INC.
Description	Type B Weld Stud/Shear Connector
Size	1/2 X 5-1/8"
Lot No.	5095000104-11
Surface	Plain
Lot Quantity	5,600pcs

Ship Quantity	5,600pcs
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CHUN YU WORKS & CO., LTD.

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www.chunyu.com.tw



Chemical Specification and Composition (%)

	Specification		C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V	Ti	Al	N
			X 100			X 1000		X 100			X 1000			X 10000	
			Material	Heat	Spec	Heat	Spec	Heat	Spec	Heat	Spec	Heat	Spec	Heat	Spec
Stud	AWS D1.1-2008 Sec. 7.2.6 ASTM A 29 and A108 Gr. 1010 - 1020	Spec	15		60	40	50								
	SAE 1018 350082Y	Heat	20		90	MAX	MAX							22	
	Aluminum 0.003 oz		16	21	62	10	5	6		3	4				

Mechanical Requirements (7.9.7.1)

	Spec	Unit	Meas	Avg
Tensile	65000	psi	85500	85500
	MIN		85500	
Yield Strength	51000	psi	65000	77300
	MIN		79000	
Elongation (5 x dia.)	15%	---	20.4	20.7
	MIN		21.1	
Reduction of Area	50%	---	64.1	64.6
	MIN		65.0	

Dimensions

	Spec	Unit	Meas	Avg
Length (L)	5.063	In	5.120	5.122
	5.187		5.124	
Head Height (T)	0.281	In	0.298	0.298
	MIN		0.299	
Head Diameter (H)	0.985	In	0.996	0.999
	1.015		1.002	
Body Diameter (C)	0.490	In	0.493	0.493
	0.500		0.493	

Bend Tests (7.9.7.2)

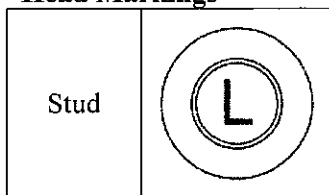
Specimen	Tested	Passed
Current 10% above optimum (7.9.6.1)	20	OK
Current 10% below optimum (7.9.6.2)	20	OK

Weld through Deck Tests (7.9.7.3)

Specimen	Tested	Passed
1 x 16 gage @ G90	10	OK
2 x 16 gage @ G60	10	OK
1 x 18 gage @ G60 over 1 x 16 gage @ G60	10	OK
2 x 18 gage @ G60	10	OK

Specimens tested by bending 30° in opposite directions.

Head Markings



Notes

We hereby certify that the above material has been satisfactorily tested in accordance with the material specifications.

S.H LAI

Authorized Signature
Manager of Q.A. Department

無放射性污染暨品質證明書
(出廠證明書)
TEST CERTIFICATE

OFFICE : 臺中市后里區甲后路702號
702, CHIA HOU ROAD, HOU LI DISTRICT,
TAICHUNG CITY, TAIWAN, ROC
TEL : (04)25565101
FAX : (04)25566955

客戶名稱 CUSTOMER NAME	春雨工廠股份有限公司	88187108	證明書編號 CERTIFICATE NO.	243B0913-001
規格名稱 SPEC.	SAE 1018 AK CT	產品名稱 PRODUCT	HOT ROLLED ROUND BAR IN COIL 熱軋捲狀棒鋼	交運日期 SHIPPING DATE
				2015/03/30 ~ 2015/04/10
				證明書列印日期 CERTIFICATE DATE
				2015/04/13

尺寸及規格 MATERIAL DESCRIP.					拉力試驗 TENSILE			化學成分(%)CHEMICAL ANALYSIS													秤量單 編號 SHIPPING NO.						
直徑 DIA. (mm)	長度 LEN. (m)	數量 QTY (bdl.)	重量 WEIGHT (kg)	爐號 HEAT NO	降伏YP /mm ²	抗拉TS /mm ²	伸長率 EL(%)	C	Si	Mn	P	S	Ni	Cr	Mo	CU	Al	B									
								X100			X1000			X100			X1000			X10000			X100				
								15		60	30	50															
13		10	19487	350082Y				16	21	62	10	5	3	6		4		22									2D4330057
16		13	25435	350082				16	21	62	10	5	3	6		4		22									2D4331063
19		12	23487	350814				17	21	63	11	4	3	8		5		23									2D4410028
19		13	25167	350814				17	21	63	11	4	3	8		5		23									2D4410023



驗訖

TOTAL: 48 BUNDLES 93, 576 kgs.

REMARK: The dimensional tolerances of hot rolled steel are according to AISI G.

QC-09-10

※茲證明本表所列產品,均依材料規格製造及試驗並符合規格之要求
WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENT OF THE ABOVE MATERIAL SPECIFICATION.

冶金研發處處長
MANAGER
METALLURGICAL R&D DEP.

郭志毅