

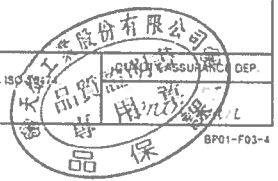


TENSION STEEL INDUSTRIES CO., LTD

MILL TEST REPORT

9F, NO. 127 SEC 2 CHIEN KUO N. ROAD, TAIPEI TAIWAN, R.O.C
TEL: (02)2500-6206 FAX: (02)2508-0398

SOLD TO												CERTIFICATE NO.	18020101	ISSUE DATE	JUN 01 2018									
COMMODITY												ORDER NO.	TS106122201	SHIPPING DATE	JUN 11 2018									
SPECIFICATION		API 5CT J55 PSL1 9th										CUSTOMER PO.	SUP18-01	INVOICE NO.	TT18053101									
LOT NO.	HEAT NO.	MATERIAL DESCRIPTION		QUANTITY		TENSILE #1			HYDROSTATIC TEST 6SEC	OTHER TEST #2	CHEMICAL COMPOSITION %													REMARK
		O.D. x THICKNESS x LENGTH	PCS/T	Y.S.	T.S.	EL.	MPa	C			Mn	Si	P	S	Cu	Ni	Cr	Mo	Al	Nb	V	Ti	P+S	
						MPa	MPa	MPa	MPa	MPa	x10 ¹	x10 ²	x10 ²	x10 ²	x10 ¹	x10 ¹	x10 ¹	x10 ¹	x10 ¹	x10 ¹	x10 ¹	x10 ¹	x10 ¹	
D180509001-001	JE643	9-5/8"x0.352"x39'	202	124.836	534	599	—	29.4	22.0	GOOD	16	99	15	11	2									13
D180509001-001	JF15B	9-5/8"x0.352"x39'	72	44.496	497	555	—	30.6	22.0	GOOD	16	98	15	10	2									12
D180509001-001	JF159	9-5/8"x0.352"x39'	86	53.148	462	544	—	29.6	22.0	GOOD	15	96	12	12	3									15
D180509001-001	JF160	9-5/8"x0.352"x39'	38	23.484	487	548	—	31.8	22.0	GOOD	15	96	12	12	2									14
											13	94	11	12	2									14
											15	98	13	13	2									15
											15	98	13	13	3									16
TOTAL			398	245.964																				
# 2 DESCRIPTION OF TEST	VISUAL	DRIFT TEST	METALLOGRAPHIC EXAM	FLATTENING TEST	ULTRASONIC TEST	LOCATION OF TENSIL	THREADS	CHARPY V-NOTCH (23°C) LONGITUDINAL # 5-C2				DIMENSION												
								JE643	JF15B	JF159	JF160	A	B	R										
RESULT	GOOD	GOOD	F+P #4	GOOD	GOOD	□ □ □ □	-	197J	165J	157J	165J				245.1	245.0	0.7							
NOTES	HEAT TREATMENT / DELIVERY CONDITION : WELD SEAM HEAT TREATMENT #1 TENSILE TEST - ELONGATION RESULT SPECIMEN TYPE STRIP WIDTH 38 10MM #3 - C.E. CARBON EQUIVLENT #4 - F+P F-FERRITE P-PEARLITE #5 - IMPACT : C1-10x10x55 C2-10x7.5x55 C3-10x5x55																							
SURVEYOR TO	WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENT OF EN 10204 & ISO 9001. THE PIPES COVERED IN THE ABOVE CERTIFICATE COMPLY TO APPENDIX B. MATERIAL REQUIREMENTS FOR SOUR WELLS, OF DIRECTIVE 10 IN CANADA.																							



Vessel: Hyundai Goodwill V076E / 254.828MT Tension 9-5/8" 36# J55 D10 PE ERW Casing

BP01-F03-4



TENSION STEEL INDUSTRIES CO., LTD

MILL TEST REPORT

 9F, NO. 127 SEC 2 CHIEN KLO N. ROAD, TAPEI TAWAN, R.O.C.
 TEL (02)2500-6206 FAX (02)2508-0395

SOLD TO												CERTIFICATE NO.	18060102		ISSUE DATE	JUN 01 2018												
COMMODITY												ORDER NO.	TS106122201		SHIPPING DATE	JUN 11 2018												
SPECIFICATION		API 5CT J55 PSL1 9th										CUSTOMER PO.	SUP18-01		INVOICE NO.	TT18053101												
LOT NO.	HEAT NO.	MATERIAL DESCRIPTION O.D. x THICKNESS x LENGTH	QUANTITY PCS/T		TENSILE #1			HYDROSTATIC TEST G/SEC	OTHER TEST #2	CHEMICAL COMPOSITION %														REMARK				
					Y.S.	T.S.				EL.	C	Mn	Si	P	S	Cu	Ni	Cr	Mo	Al	Nb	V	Ti		P+S	C.E.		
					MPa			MPa																				
						MPa	MPa			x10 ²	x10 ²	x10 ²	x10 ²	x10 ²	x10 ¹				x10 ¹	x10 ¹	x10 ¹	x10 ¹						
D180509001-001	JD656	9-5/8" x 0.352" x 35'	3	1.662	507	556	—	30.2	22.0	GOOD	15	97	13	13	2													15
D180509001-001	JD661	9-5/8" x 0.352" x 35'	3	1.662	487	552	—	30.6	22.0	GOOD	15	98	13	13	3													16
D180509001-001	JE251	9-5/8" x 0.352" x 35'	2	1.108	481	569	—	31.0	22.0	GOOD	14	99	14	17	2													19
D180509001-001	JE252	9-5/8" x 0.352" x 35'	3	1.662	518	573	—	31.4	22.0	GOOD	14	99	14	16	2													18
D180509001-001	JE252	9-5/8" x 0.352" x 35'	3	1.662	518	573	—	31.4	22.0	GOOD	15	101	14	16	2													18
D180509001-001	JE252	9-5/8" x 0.352" x 35'	3	1.662	518	573	—	31.4	22.0	GOOD	15	101	13	16	2													18
D180509001-001	JE642	9-5/8" x 0.352" x 35'	3	1.662	482	550	—	31.2	22.0	GOOD	16	98	13	14	3													17
D180509001-001	JE642	9-5/8" x 0.352" x 35'	3	1.662	482	550	—	31.2	22.0	GOOD	15	98	13	14	2													16
D180509001-001	JE643	9-5/8" x 0.352" x 35'	3	1.662	482	550	—	31.2	22.0	GOOD	15	99	14	12	3													15
D180509001-001	JE643	9-5/8" x 0.352" x 35'	2	1.108	534	599	—	29.4	22.0	GOOD	16	99	13	12	4													16
D180509001-001	JE643	9-5/8" x 0.352" x 35'	2	1.108	534	599	—	29.4	22.0	GOOD	16	99	15	11	2													13
D180509001-001	JE643	9-5/8" x 0.352" x 35'	2	1.108	534	599	—	29.4	22.0	GOOD	16	98	15	10	2													12
TOTAL			16	8.864																								
# 2 DESCRIPTION OF TEST	VISUAL	DRIFT TEST	METALLO-GRAPHIC EXAM	FLATTENING TEST	ULTRASONIC TEST	LOCATION OF TENSIL	THREADS	CHARPY V-NOTCH (23°C LONGITUDINAL) #5-C2						DIMENSION														
								JD656	JD661	JE251	JE252	JE642	JE643	A	B	R												
RESULT	GOOD	GOOD	F+P #4	GOOD	GOOD	ML CT CW	-	194J	200J	195J	194J	188J	197J				245.1	245.0	0.7									
NOTES	HEAT TREATMENT / DELIVERY CONDITION : WELD SEAM HEAT TREATMENT #1 TENSILE TEST - ELONGATION RESULT SPECIMEN TYPE STRIP WIDTH 38 10MM #3 - C.E. CARBON EQUIVALENT #4 - F+P-F-FERRITE P-PEARLITE #5 - IMPACT C1-10x10x55 C2-10x7.5x55 C3-10x5x55																											
SURVEYOR TO	WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENT OF EN 10204 & ISO 10924. THE PIPES COVERED IN THE ABOVE CERTIFICATE COMPLY TO APPENDIX B, MATERIAL REQUIREMENTS FOR SOUR WELLS OF DIRECTIVE 10 IN CANADA.																											



Vessel: Hyundai Goodwill V076E / 254.828MT Tension 9-5/8" 36# J55 D10 PE ERW Casing

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