



1244-CPD-0205  
ETA10/0335

# MATERIAL TEST & INSPECTION CERTIFICATE



**SUNGKWANG**  
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CUSTOMER : PRI Co. Ltd,

According to

PROJECT NAME : N/A

**DIN 50049 3.1 / EN 10204 3.1 / ISO 10474 3.1**

PURCHASE ORDER No.	547852369	SPEC. FOR MATERIAL	A420 WPL6 NACE MR0175	CERTIFICATE No.	HNDD5314521100
PJT No.	N/A	SPEC. FOR INSPECTION	ASME B16.9	DATE OF ISSUE	2019.05.15
STARTING MATERIAL	LTS SMLS PIPE	SKB No.	6452154711	VISUAL & DIMENSION	SATISFACTORY

No.	SEQ/LINE/ITEM No	DESCRIPTION	QTY.	HEAT No.	DS No.	SERIAL No.
1	4521-35241000	REDUCED TEE SCH 80 x SCH 80 1 1/2" x 3/4" B.W SMLS NACE MR0175	125	3-0855	-	-
2	4521-35241001	REDUCED TEE SCH 80 x SCH 80 2" x 1 1/2" B.W SMLS NACE MR0175	110	9-6152	-	-
3	4521-35241002	CON REDUCER SCH 20 x SCH 40 8" x 4" B.W SMLS NACE MR0175	65	3-9078	-	-
4	4521-35241003	CON REDUCER SCH 20 x SCH 40 8" x 6" B.W SMLS NACE MR0175	65	8-3324	-	-
5	4521-35241004	ECC REDUCER SCH 80 x SCH 80 4" x 2" B.W SMLS NACE MR0175	100	8-2351	-	-

CHEMICAL COMPOSITION (%) (P : PRODUCT)																			TENSILE TEST				
STD. HEAT No.	SPEC.	C	Si	Mn	P	S	Ni	Cr	Mo	V	Cu	Sn	Ti	Al	B	Pb	Nb	Cb	SPEC.	Y.S 0.2% offset	T.S	EL	HRB
																				Mpa	Mpa	%	
																				MIN	MAX	MIN	
3-0855	P	0.083	0.25	0.76	0.015	0.005	0.064	0.085	0.045	0.016	0.093	0.001	0.001	0.016	0.001	0.002	0.005	0.005	P	295	497	36	154
9-6152	P	0.087	0.23	0.72	0.013	0.003	0.068	0.087	0.048	0.018	0.098	0.001	0.001	0.017	0.001	0.002	0.003	0.004	P	298	495	38	157
3-9078	P	0.085	0.25	0.77	0.014	0.007	0.062	0.083	0.045	0.012	0.092	0.001	0.001	0.012	0.001	0.002	0.004	0.003	P	292	492	35	156
8-3324	P	0.082	0.22	0.74	0.012	0.005	0.067	0.085	0.047	0.017	0.094	0.001	0.001	0.015	0.001	0.002	0.006	0.006	P	294	498	36	152
8-2351	P	0.084	0.24	0.75	0.016	0.006	0.063	0.084	0.044	0.013	0.095	0.001	0.001	0.013	0.001	0.002	0.003	0.002	P	293	496	37	155

IMPACT HEAT No.	TEST TEMP	SIZE OF SPECIMENT (mm)	ABSORBED ENERGY		ABSORBED ENERGY		ABSORBED ENERGY		HARDNESS HRC		HEAT TREATMENT	Normalization				
			STD. / Min 18 J		STD. / Min 18 J		STD. / Min 18 J		MIN	22		PMI	OK	N.D.E	R.T:GOOD	
			VALUE	AVE.	VALUE	AVE.	VALUE	AVE.	MAX							
3-0855	-50°C	10 x 10	54	59	55	55	58	59	55		54					55
9-6152	-50°C	10 x 10	58	56	59	57	52	52	52	58	54	HRC	<22	BENDING TEST	OK	
3-9078	-50°C	10 x 10	52	53	54	59	54	54	56	52	59	HRC	<22	HYDROSTATIC TEST	-	
8-3324	-50°C	10 x 10	55	58	52	56	58	57	59	57	56	HRC	<22	HIC TEST	OK	
8-2351	-50°C	10 x 10	57	52	58	53	56	56	53	55	53	HRC	<22	CORROSION TEST	OK	

WE CERTIFY THIS MATERIAL HAS BEEN MANUFACTURED AND EXAMINED IN ACCORDANCE WITH ALL REQUIREMENT OF THE SPECIFICATION AND THE RESULTS OF ALL EXAMINATION ARE ACCEPTABLE.

**Q.C. PASSED**  
By..... Date M.S. JANG

*[Signature]*

QM DIV. SENIOR MANAGING DIRECTOR

REVIEWED BY : \_\_\_\_\_  
WITNESSED BY : \_\_\_\_\_