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MILL TEST & INSPECTION CERTIFICATE

DATE OF ISSUE : 2026-06-23

CERTIFICATE NO. : PE202606-0147-000807(5032782)

L/C No. (P/O No.) : PO26100126(PO_70348)

COMMODITY : H.F.W STEEL PIPE

CUSTOMER :

SPECIFICATION : API 5L X65M PSL2(46th)

SHIPPER : SEAH STEEL AMERICA,INC.

SeAH Steel

HEAD OFFICE; SEAH TOWER, 45 YANGHWA-RO, MAPO-GU, SEOUL, KOREA

POHANG PLANT ; 136, GOEDONG-RO, NAM-GU, POHANG, KOREA

NO.	HEAT NO. (BATCH NO.)	TYPE *1	ORDER SIZE	QUANTITY PCS	QUANTITY TOTAL LENGTH	QUANTITY WEIGHT(FT/T)	REMARK
1	SP42584 (SIA6022030)	BBE	24 " X 0.625 " X 42.000 FT	20	840.000 FT	59.506	* CONFIRM TO NACE MR 0175 & MR 0103 & ISO 15156-2 (CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS VALUE ONLY)
2	SP42587 (SIA6022040)	BBE	24 " X 0.625 " X 42.000 FT	24	1,008.000 FT	71.407	* HARDNESS TEST RESULT ; Max. Value
3	SP42596 (SIA6052020)	BBE	24 " X 0.688 " X 42.000 FT	31	1,302.000 FT	101.257	* TENSILE SPECIMEN : RECTANGULAR (1T180 & 1W-WIDTH 1½")
							* UT CALIBRATION REFERENCE : Φ 3.2MM DRILLED HOLE
							* IMPACT TEST SPECIMEN(3T90, 3W, 3HAZ/2V) : Full Size
							* METALLOGRAPHIC TEST ; GOOD
							Steel Making :POSCO (KOREA)
							Coil Rolling : POSCO (KOREA)

NO.	HEAT NO (BATCH NO.)	HYDRO STATIC TEST 10 Sec. psi	HYDRO STATIC TEST RESULT	COLLAPSE	N·D·T *2	V I S M U E A N L S I &	FLATTENING	R·M·T (Gs)	BENDING *3	DRIFT *4	DESIG *5	CHEMICAL COMPOSITION(%) C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	B	Pcm	CEQ	DIR	TENSILE TEST TENSILE STRENGTH psi	YIELD STRENGTH psi	Y.R %	E.L %	IMPACT TEST(0 °C) LOC	ENERGY (Joule) 1	2	3	AVE	SHEAR AREA (%) 1	2	3	AVE	Drop Weight Tear Test () 1	2	AVE	HARDNESS TEST HV	HEAT TREATMENT SN
												2			3		2	2	2	2	3	3	3	4	C1			*6				*9	*10												*11
SPEC								30			MAX	12	45	160	25	15	50	50	50	50				10	25			110200	87000	93													250	
											MIN																	77600	65300		24		21			27								
1	SP42584	2970	G		G	G	G	G			H	7	20	139	10	2	1	1	2	0	43	43	16	2	15																			
	(SIA6022030)										P	7	21	139	12	2	1	1	2	0	55	45	16	2	16		T	91220	75270	83	38	B	235	229	251	238	100	100	100	100					G
											P	7	21	139	12	1	1	1	2	0	55	45	16	3	16		W	88610				W	137	141	161	147									
											P																					H	423	420	425	423									
2	SP42587	2970	G		G	G	G	G			H	7	20	140	9	2	1	1	2	0	44	44	15	2	15																			
	(SIA6022040)										P	8	20	141	12	1	1	1	1	0	56	46	15	2	17		T	90930	77300	85	39	B	242	239	281	254	100	100	100	100					G
											P	6	20	140	11	1	1	1	1	0	56	46	15	3	15		W	87310				W	186	127	120	145									
											P																					H	416	419	416	418									
3	SP42596	2970	G		G	G	G	G			H	7	21	139	8	2	1	1	2	0	43	46	16	2	15																			
	(SIA6052020)										P	7	21	139	9	1	1	1	1	0	56	45	16	2	15		T	91370	76720	84	41	B	246	252	248	249	100	100	100	100					G
											P	7	21	139	9	1	1	1	1	0	55	44	16	1	15		W	87740				W	211	178	245	212									
											P																					H	420	405	416	414									

NOTE *1~*12: Refer To Others

OTHERS

*1-BBE:BLACK BEVELED END(30°~ 35°) *G:GOOD *R.M:Residual Magnetism(Gauss) *DIR:Direction *LOC:Location
*2-U:U:Weld Seam Ultrasonic Test *5-(Analysis)-H:Heat, P:Product
*6-0;Values below Significant Figure, 2:X1/100, 3:X1/1000, 4:X1/10000 *9-E.L;Elongation(GL-2")
*8-T:Base Transverse,W:Weld Transverse *10-B:Base,H:H.A.Z,W:Weld*11-S.N:Seam Normalizing(Weld and H.A.Z)/Min. 871°C
*12-C1(X100):C+Si/30+Mn/20+Cu/20+Ni/60+Cr/20+Mo/15+V/10+5B

* THIS CERTIFICATE IS ISSUED ACCORDING TO EN 10204 3.1 ; 2004 ISO 10474 3.1 ; 2013(3.1.B;1991)

We hereby certify that the material herein has been made and tested in accordance with above specification and the results of all test are acceptable.
In case of improper use other than the indicated on this certificate may cause safety hazard and/or monetary problems.

This mill test report is not related the accreditation standard (KS Q ISO/IEC 17025, operation instructions and etc.)and KOLAS accreditation.

J. M. Kim

Manager of Q.M Dept.

SeAH

PAGE : 2 / 2			DATE OF ISSUE : 2026-06-23
CERTIFICATE NO. : PE202606-0147-000807(5032782)			L/C No. (P/O No.) : PO26100126(PO_70348)
COMMODITY : H.F.W STEEL PIPE			CUSTOMER :
SPECIFICATION : API 5L X65M PSL2(46th)			SHIPPER : SEAH STEEL AMERICA,INC.

MILL TEST & INSPECTION CERTIFICATE

SeAH Steel

HEAD OFFICE; SEAH TOWER, 45 YANGHWA-RO, MAPO-GU, SEOUL, KOREA

POHANG PLANT ; 136, GOEDONG-RO, NAM-GU, POHANG, KOREA

NO.	HEAT NO. (BATCH NO.)	TYPE *1	ORDER SIZE	QUANTITY PCS	QUANTITY TOTAL LENGTH	QUANTITY WEIGHT(FT/T)
4	SP42590 (SIA6052030)	BBE	24 " X 0.688 " X 42.000 FT	32	1,344.000 FT	104.523
5	SP42591 (SIA6052040)	BBE	24 " X 0.688 " X 42.000 FT	24	1,008.000 FT	78.392
6	SP42599 (SIA6052050)	BBE	24 " X 0.688 " X 42.000 FT	12	504.000 FT	39.196

REMARK

* CONFIRM TO NACE MR 0175 & MR 0103 & ISO 15156-2 (CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS VALUE ONLY)
* HARDNESS TEST RESULT ; Max. Value
* TENSILE SPECIMEN : RECTANGULAR (1T180 & 1W-WIDTH 1½")
* UT CALIBRATION REFERENCE : Φ 3.2MM DRILLED HOLE
* IMPACT TEST SPECIMEN(3T90, 3W, 3HAZ/2V) : Full Size
* METALLOGRAPHIC TEST ; GOOD

Steel Making :POSCO (KOREA)
Coil Rolling : POSCO (KOREA)

NO.	HEAT NO (BATCH NO.)	HYDRO STATIC TEST 10 Sec. psi	HYDRO STATIC TEST RESULT	COLLAPSE	N·D·T *2	VISUAL & MANUAL INSPECTION	FLATTENING	R·M·T (Gs) *3	BENDING *4	DRIFT *5	DESIG	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	B	Pcm	CEQ
												2			3		2	2	2	2	3	3	3	4	C1	
												*6													*12	*7
SPEC								30			MAX	12	45	160	25	15	50	50	50	50				10	25	
											MIN															
4	SP42590	2970	G		G	G	G	G			H	7	21	142	8	2	1	1	1	0	46	48	16	2	16	
	(SIA6052030)										P	6	22	142	9	1	1	1	1	0	57	46	15	2	15	
											P	6	21	141	9	1	1	1	1	0	57	45	15	2	15	
											P															
5	SP42591	2970	G		G	G	G	G			H	7	19	138	9	2	1	1	1	1	43	44	16	1	15	
	(SIA6052040)										P	8	20	139	10	1	1	1	1	1	56	45	15	2	17	
											P	7	20	140	10	1	1	1	1	1	56	45	15	3	16	
											P															
6	SP42599	2970	G		G	G	G	G			H	7	21	138	8	2	1	1	1	0	44	46	16	2	15	
	(SIA6052050)										P	7	21	139	8	1	1	1	1	0	55	44	15	2	15	
											P	7	21	139	9	1	1	1	1	0	55	44	15	3	16	
											P															

NO.	HEAT NO (BATCH NO.)	TENSILE TEST DIR *8	TENSILE STRENGTH psi	YIELD STRENGTH psi	Y.R %	E.L % *9	IMPACT TEST(0 °C) LOC *10	ENERGY (Joule) 1	2	3	AVE	SHEAR AREA (%) 1	2	3	AVE	Drop Weight Tear Test () 1	2	AVE	HARDNESS TEST HV	HEAT TREATMENT SN *11
SPEC			110200	87000	93														250	
			77600	65300		24			21		27									
4	SP42590						B	264	332	257	284	100	100	100	100					G
	(SIA6052030)	T	88760	74830	84	41														
		W	87740				W	281	182	417	294									
							H	430	427	424	427									
5	SP42591						B	306	298	219	274	100	100	100	100					G
	(SIA6052040)	T	86150	73380	85	41														
		W	87890				W	246	143	158	183									
							H	415	418	407	414									
6	SP42599						B	211	204	228	214	100	100	100	100					G
	(SIA6052050)	T	90640	74830	83	39														
		W	88180				W	161	342	225	243									
							H	418	425	420	421									

NOTE *1~*12: Refer To Others

OTHERS

*1-BBE:BLACK BEVELED END(30°~ 35°) *G:GOOD *R.M:Residual Magnetism(Gauss) *DIR:Direction *LOC:Location
*2-U:U:Weld Seam Ultrasonic Test *5-(Analysis)-H:Heat, P:Product
*6-0;Values below Significant Figure, 2:X1/100, 3:X1/1000, 4:X1/10000 *9-E.L;Elongation(GL-2")
*8-T:Base Transverse,W:Weld Transverse *10-B:Base,H:H.A.Z,W:Weld*11-S.N:Seam Normalizing(Weld and H.A.Z)/Min. 871°C
*12-C1(X100):C+Si/30+Mn/20+Cu/20+Ni/60+Cr/20+Mo/15+V/10+5B

* THIS CERTIFICATE IS ISSUED ACCORDING TO EN 10204 3.1 ; 2004 ISO 10474 3.1 ; 2013(3.1.B;1991)

We hereby certify that the material herein has been made and tested in accordance with above specification and the results of all test are acceptable.
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This mill test report is not related the accreditation standard (KS Q ISO/IEC 17025, operation instructions and etc.)and KOLAS accreditation.

J. M. Kim

Manager of Q.M Dept.

SeAH

Charpy V-Notch Impact Test Results Sheet

SPEC : API 5L X65M PSL2(46th)
PO No. : PO26100126(PO_70348)
MTR No. : PE202607-0119-000967(5032782)
VESSEL : JUNO ANENIR

Issued Date : 19. Aug. 2026

Size	Heat No.	Dir.	CVN Impact Test								DWTT Shear Area (%)		
			Specimen Size		55x10x10mm		Test TEMP.		-46℃		Specimen Size		-
			Absorbed Energy (J)				Shear Area(%)				Test Temperature		-
			1	2	3	AVE	1	2	3	AVE	1	2	AVE
24" x 0.625"	SP42581	T	236.9	221.7	195.1	217.9	100.0	100.0	100.0	100.0	N/A		
		W	123.8	58.2	67.2	83.1							
		H	359.3	363.6	313.7	345.5							
	SP42584	T	197.1	171.8	155.3	174.7	100.0	100.0	100.0	100.0			
		W	285.3	100.3	89.2	158.3							
		H	307.1	311.5	360.1	326.2							
24" x 0.688"	SP42593	T	103.2	87.2	141.3	110.6	100.0	100.0	100.0	100.0			
		W	219.9	173.5	168.1	187.2							
		H	321.3	361.8	338.6	340.6							
	SP42591	T	170.1	68.1	79.2	105.8	100.0	100.0	100.0	100.0			
		W	215.4	102.2	417.1	244.9							
		H	436.6	347.3	352	378.6							

Direction	Reported By	Approved by	Remark
T : Base Metal (Transverse direction) L : Base Metal (Longitudinal direction) W : Weld H : H.A.Z	Lee. D.H	J. M. Kim	* The value of absorbed energy has been converted as full size specimen(10x10x75mm)

Charpy V-Notch Impact Test Results Sheet

1-1 sheets

SPEC : API 5L X65M PSL2(46th)
PO No. : PO26100126(PO_70348)
MTR No. : PE202607-0119-000967(5032782)
VESSEL : JUNO ANENIR

Issued Date : 19. Aug. 2026

Size	Heat No.	Dir.	CVN Impact Test								DWTT Shear Area (%)		
			Specimen Size		55x10x10mm		Test TEMP.		-29℃		Specimen Size		-
			Absorbed Energy (J)				Shear Area(%)				Test Temperature		-
			1	2	3	AVE	1	2	3	AVE	1	2	AVE
24" x 0.625"	SP42581	T	315	235.3	273.7	274.7	100.0	100.0	100.0	100.0	N/A		
		W	209.9	205.9	85.2	167.0							
		H	427.8	428.4	430.6	428.9							
	SP42584	T	195.9	204.3	166	188.7	100.0	100.0	100.0	100.0			
		W	113.7	67.9	82.2	87.9							
		H	374.3	347.3	286	335.9							
24" x 0.688"	SP42593	T	100.3	292.4	206.5	199.7	100.0	100.0	100.0	100.0			
		W	423.7	421.5	137.1	327.4							
		H	417.4	430	422.5	423.3							
	SP42591	T	196.4	205.6	187	196.3	100.0	100.0	100.0	100.0			
		W	216.7	315.1	145	225.6							
		H	432	427.9	431.2	430.4							

Direction	Reported By	Approved by	Remark

T : Base Metal (Transverse direction) L : Base Metal (Longitudinal direction) W : Weld H : H.A.Z	Lee. D.H	J. M. Kim	* The value of absorbed energy has been converted as full size specimen(10x10x75mm)

Charpy V-Notch Impact Test Results Sheet

1-1 sheets

SPEC : API 5L X65M PSL2(46th)
PO No. : PO26100126(PO_70348)
MTR No. : PE202606-0147-000807(5032782)
VESSEL : PAN ORION

Issued Date : 19. Aug. 2026

Size	Heat No.	Dir.	CVN Impact Test								DWTT Shear Area (%)		
			Specimen Size		55x10x10mm		Test TEMP.		-29℃		Specimen Size		-
			Absorbed Energy (J)				Shear Area(%)				Test Temperature		-
			1	2	3	AVE	1	2	3	AVE	1	2	AVE
24" x 0.625"	SP42584	T	195.9	204.3	166	188.7	100.0	100.0	100.0	100.0	N/A		
		W	113.7	67.9	82.2	87.9							
		H	374.3	347.3	286	335.9							
	SP42587	T	240.1	219.6	221.7	227.1	100.0	100.0	100.0	100.0			
		W	100.2	119.8	120.3	113.4							
		H	406.7	425.1	405.7	412.5							
24" x 0.688"	SP42596	T	214.7	204.3	240.1	219.7	100.0	100.0	100.0	100.0			
		W	78.2	150.8	189	139.3							
		H	411.8	416.8	417.2	415.3							
	SP42590	T	257.1	243	207.7	235.9	100.0	100.0	100.0	100.0			
		W	144.1	195	208.1	182.4							
		H	423.7	429.8	425.3	426.3							
	SP42591	T	196.4	205.6	187	196.3	100.0	100.0	100.0	100.0			
		W	216.7	315.1	145	225.6							
		H	432	427.9	431.2	430.4							
	SP42599	T	165.1	181.8	182.8	176.6	100.0	100.0	100.0	100.0			
		W	203.7	406.5	340.4	316.9							
		H	390.3	404.3	423.6	406.1							

Direction	Reported By	Approved by	Remark
T : Base Metal (Transverse direction) L : Base Metal (Longitudinal direction) W : Weld H : H.A.Z	Lee. D.H	J. M. Kim	* The value of absorbed energy has been converted as full size specimen(10x10x75mm)

Charpy V-Notch Impact Test Results Sheet

1-1 sheets

SPEC : API 5L X65M PSL2(46th)
PO No. : PO26100126(PO_70348)
MTR No. : PE202606-0147-000807(5032782)
VESSEL : PAN ORION

Issued Date : 19. Aug. 2026

Size	Heat No.	Dir.	CVN Impact Test								DWTT Shear Area (%)		
			Specimen Size		55x10x10mm		Test TEMP.		-46℃		Specimen Size		-
			Absorbed Energy (J)				Shear Area(%)				Test Temperature		-
			1	2	3	AVE	1	2	3	AVE	1	2	AVE
24" x 0.625"	SP42584	T	197.1	171.8	155.3	174.7	100.0	100.0	100.0	100.0	N/A		
		W	285.3	89.1	78.2	150.9							
		H	307.1	311.5	360.1	326.2							
	SP42587	T	197.4	198.3	204.8	200.2	100.0	100.0	100.0	100.0			
		W	100.2	87.1	141.4	109.6							
		H	315.6	382.9	406.1	368.2							
24" x 0.688"	SP42596	T	195.5	179.1	108.1	160.9	100.0	100.0	100.0	100.0			
		W	85.3	63.4	170.8	106.5							
		H	354.2	319.7	349.8	341.2							
	SP42590	T	196.1	197.8	216.7	203.5	100.0	100.0	100.0	100.0			
		W	83.6	209.1	193.7	162.1							
		H	337.2	415.8	423.6	392.2							
	SP42591	T	170.1	107.1	107.9	128.4	100.0	100.0	100.0	100.0			
		W	215.4	100.5	417.1	244.3							
		H	436.6	347.3	352	378.6							
	SP42599	T	90.9	58	89.2	79.4	100.0	100.0	100.0	100.0			
		W	107.2	60.3	272	146.5							
		H	329.5	301.3	337.5	322.8							

Direction	Reported By	Approved by	Remark
T : Base Metal (Transverse direction) L : Base Metal (Longitudinal direction) W : Weld H : H.A.Z	Lee. D.H	J. M. Kim	* The value of absorbed energy has been converted as full size specimen(10x10x75mm)