



**Mill Test Certificate**

Certificate No. : 220113-FH01KS-0101A1-0005  
 Date of Issue : Jan., 21, 2022

Order No. : 01S5323170

Supplier : POSCO INTERNATIONAL CORPORATION

PO No. : 2201-25.281 (25.281)  
 Commodity : HR COIL

Customer :

Spec & Type : ASTM A1011-SS33

Size	Product No.	Quantity	Weight (kg) (lb)	Heat No.	Country of Melt & Pour	Position	Tensile Test			Bend Test	Division	Chemical Composition													
							YP (%)	TS (%)	EL (%)			C (%)	Si (%)	Mn (%)	P (%)	S (%)	Cr (%)	Ni (%)	Cu (%)	Mo (%)	N (ppm)	Nb (%)	Ti (%)	V (%)	Sn-Al (%)
2.98x1219x12	HQZ076170	1	19,910 (43,883)	SQ85536	KOR	B	260	426	31	Good	L	0.1346	0.012	0.502	0.0116	0.0050	0.019	0.017	0.059	0.005	31	0.001	0.0007	0.000	0.036
2.98x1219x12	HQZ076190	1	19,880 (43,827)	SQ85536	KOR	B	280	428	31	Good	L	0.1346	0.012	0.502	0.0116	0.0030	0.019	0.017	0.069	0.005	31	0.001	0.0007	0.000	0.036
2.98x1219x12	HQZ076280	1	19,590 (43,166)	SQ85539	KOR	B	278	430	31	Good	L	0.1335	0.010	0.490	0.0106	0.0039	0.017	0.010	0.028	0.003	33	0.001	0.0003	0.000	0.035
2.98x1219x12	HQZ076290	1	20,090 (44,290)	SQ85539	KOR	B	278	430	31	Good	L	0.1335	0.010	0.490	0.0106	0.0039	0.017	0.010	0.028	0.003	33	0.001	0.0003	0.000	0.035
2.98x1219x12	HQZ076300	1	20,120 (44,356)	SQ85538	KOR	B	288	448	36	Good	L	0.1335	0.010	0.490	0.0106	0.0039	0.017	0.010	0.029	0.003	33	0.001	0.0003	0.000	0.035
2.98x1219x12	HQZ076330	1	20,150 (44,422)	SQ85538	KOR	B	299	449	36	Good	L	0.1335	0.010	0.490	0.0106	0.0039	0.017	0.010	0.029	0.003	33	0.001	0.0003	0.000	0.035
*** Sub Total (070) ***		10	199,090 (438,689)																						
2.98x1524x12	HQZ084070	1	20,830 (45,922)	SQ85643	KOR	B	287	447	34	Good	L	0.1465	0.004	0.508	0.0111	0.0032	0.018	0.011	0.027	0.003	39	0.001	0.0006	0.000	0.031
2.98x1524x12	HQZ084230	1	20,910 (46,098)	SQ85648	KOR	B	275	436	31	Good	L	0.1448	0.005	0.482	0.0088	0.0037	0.019	0.011	0.030	0.002	33	0.000	0.0013	0.000	0.031
2.98x1524x12	HQZ0842502	1	17,410 (38,382)	SQ85648	KOR	B	275	436	31	Good	L	0.1448	0.005	0.482	0.0088	0.0037	0.019	0.011	0.030	0.002	33	0.000	0.0013	0.000	0.031
2.98x1524x12	HQZ084300	1	20,990 (46,274)	SQ85648	KOR	B	275	436	31	Good	L	0.1448	0.005	0.482	0.0088	0.0037	0.019	0.011	0.030	0.002	33	0.000	0.0013	0.000	0.031
2.98x1524x12	HQZ084220	1	20,310 (44,775)	SQ85649	KOR	B	267	429	32	Good	L	0.1448	0.005	0.482	0.0088	0.0037	0.019	0.011	0.030	0.002	33	0.000	0.0013	0.000	0.031
2.98x1524x12	HQZ084240	1	20,910 (46,098)	SQ85649	KOR	B	267	429	32	Good	L	0.1448	0.005	0.482	0.0088	0.0037	0.019	0.011	0.030	0.002	33	0.000	0.0013	0.000	0.031

\* Position - T : Top, M : Middle, B : Bottom  
 \* Tensile Test, Direction : Longitudinal, Gauge Length : 50 mm (Rectangular),  
 YP Method : 0.2 % off-set  
 \* Bend Test - Direction : Longitudinal, Angle : 90°  
 \* Division - L : Ladle Analysis

*P.O. # S55W128724  
 11 28 48 x 144  
 HEAT # SQ 85539*

We hereby certify that the material herein has been made in accordance with the order and is fully in compliance.  
 This material has been fully killed and made by basic oxygen process.  
 Test Certificate is issued according to ISO 10474/EN 10204 3.1.

Legal sanction can be imposed on forging. Improper use of product can cause safety issues.

Surveyor To : **Park, Junyoung** Chief of material testing section  
 Park, Junyoung  
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 < PAGE : 5 >