

Certificate No. : 230422-FH01KS-0021A1-0001  
 Date of Issue : May., 02, 2023

# Mill Test Certificate



Order No. : 01S6033795

Supplier : POSCO INTERNATIONAL CORPORATION

PO No. : 2304-25.770 (25.770)  
 Commodity : HR COIL

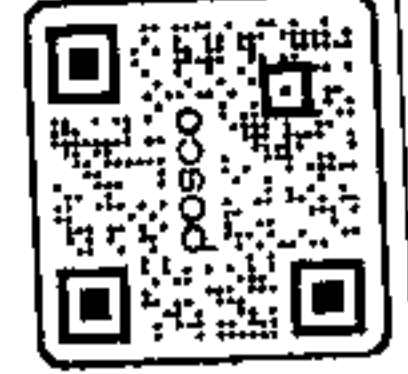
Spec & Type : ASTM A1011-CS-B

Size	Product No.	Quantity	Weight (kg) (lb)	Heat No.	Country of Melt & Pour	Position	Tensile Test			Chemical Composition														
							YP (MPa)	TS (MPa)	EL (%)	C (%)	Si (%)	Mn (%)	P (%)	S (%)	Cr (%)	Ni (%)	B (ppm)	Cu (%)	Mo (%)	N (ppm)	Nb (%)	Ti (%)	V (%)	Sn-AI (%)
✓ 1.60x1219xC	HPQ130910	1	19,850 (43,761)	SP48444	KOR	B	227	349	39	0.0363	0.005	0.189	0.0102	0.0087	0.011	0.007	0	0.014	0.002	27	0.000	0.0004	0.000	0.030
1.60x1219xC	HPQ130920	1	19,800 (43,651)	SP48444	KOR	B	227	349	39	0.0363	0.005	0.189	0.0102	0.0087	0.011	0.007	0	0.014	0.002	27	0.000	0.0004	0.000	0.030
1.60x1219xC	HPQ130990	1	18,730 (41,292)	SP48444	KOR	B	227	349	39	0.0363	0.005	0.189	0.0102	0.0087	0.011	0.007	0	0.014	0.002	27	0.000	0.0004	0.000	0.030
1.60x1219xC	HPQ165110	1	17,460 (38,492)	SP48444	KOR	B	234	349	39	0.0363	0.005	0.189	0.0102	0.0087	0.011	0.007	0	0.014	0.002	27	0.000	0.0004	0.000	0.030
1.60x1219xC	HPQ165120	1	20,180 (44,489)	SP48444	KOR	B	234	349	39	0.0363	0.005	0.189	0.0102	0.0087	0.011	0.007	0	0.014	0.002	27	0.000	0.0004	0.000	0.030
1.60x1219xC	HPQ143000	1	20,040 (44,180)	SP48587	KOR	B	168	318	37	0.0344	0.005	0.185	0.0112	0.0034	0.009	0.008	0	0.021	0.001	39	0.000	0.0004	0.000	0.019
1.60x1219xC	HPQ143010	1	20,140 (44,400)	SP48587	KOR	B	232	353	38	0.0344	0.005	0.185	0.0112	0.0034	0.009	0.008	0	0.021	0.001	39	0.000	0.0004	0.000	0.019
1.60x1219xC	HPQ143020	1	19,880 (43,827)	SP48587	KOR	B	232	358	38	0.0344	0.005	0.185	0.0112	0.0034	0.009	0.008	0	0.021	0.001	39	0.000	0.0004	0.000	0.019
*** Sub Total (0.10) ***		8	156,080 (344,092)																					
1.60x1524xC	HRQ127340	1	19,890 (43,849)	SQ23370	KOR	B	227	352	38	0.0329	0.007	0.173	0.0143	0.0182	0.021	0.008	0	0.011	0.001	33	0.000	0.0004	0.000	0.029
1.60x1524xC	HRQ131800	1	19,330 (42,615)	SQ23370	KOR	B	227	352	38	0.0329	0.007	0.173	0.0143	0.0182	0.021	0.008	0	0.011	0.001	33	0.000	0.0004	0.000	0.029
1.60x1524xC	HRQ127280	1	20,500 (45,194)	SQ23370	KOR	B	253	354	34	0.0329	0.007	0.173	0.0143	0.0182	0.021	0.008	0	0.011	0.001	33	0.000	0.0004	0.000	0.029
*** Sub Total (0.20) ***		3	59,720 (131,658)																					

\* Position - T : Top, M : Middle, B : Bottom  
 \* Tensile Test Direction : Longitudinal, Gauge Length : 50 mm (Reclangular),  
 YP Method : Upper Point  
 \* Division - L : Ladle Analysis

*P.O. # P0242538-15  
 1634 43 x 96  
 HEAT # SP48444*

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.

**Park, Junyoung**

Surveyor To :

Chief of material testing section

Park, Junyoung

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POSCO