

# CERTIFICATE OF ACCREDITATION

## Korea Testing and Research Institute

**Accreditation No. :** KT011

**Corporation Registration No. :** 134122-0007297

**Address of Laboratory :** 98, Gyoyukwon-ro, Gwacheon-si, Gyeonggi-do, Korea  
68, Gajaeul-ro, Seo-gu, Incheon, Korea  
15, Jongga-ro, Jung-gu, Ulsan, Korea  
42-27, Jungbu-daero 2517beon-gil, Yangji-myeon, Cheoin-gu,  
Yongin-si, Gyeonggi-do, Korea  
5, Myeongji ocean city 9-ro, Gangseo-gu, Busan, Korea  
12-63, Sandan-gil, Hwasun-eup, Hwasun-gun, Jeollanam-do, Korea  
122-11, Seongseo4chacheomdan-ro, Dalseo-gu, Daegu, Korea

**date of Initial Accreditation :** December 10, 1994

**Duration :** April 28, 2014 ~ April 27, 2018

**Scope of Accreditation :** Attached Annex

**Date of issue :** August 7, 2017

**This testing laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025 : 2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated 8 January 2009).**



*Jung Dong Hee*

**Administrator**

**Korea Laboratory Accreditation Scheme**

# Korea Laboratory Accreditation Scheme

No. KT011

Address of Laboratory : 68, Gajaeul-ro, Seo-gu, Incheon, Korea

## 01. Mechanical Test

### 01.003 Cements and Related Products

Test Method	Standard designation	Test range
KS F 2402 : 2007	Method of test for slump of concrete	(0 ~ 250) mm
KS F 2405 : 2010	Method of test for compressive strength of concrete	(2.5 ~ 300.0) MPa
KS F 2408 : 2016	Method of test for flexural strength of concrete	(0.1 ~ 100) kN
KS F 2409 : 2016	Method of test for unit mass and air content of fresh concrete 6.1 Unit Volume Weight 6.2 Air Content	(2 ~ 7) L (0.5 ~ 10.0) %
KS F 2413 : 2015	Method of test for compressive strength of concrete using portions of beams in flexure	(2.5 ~ 300.0) MPa
KS F 2414 : 2015	Method of test for bleeding of concrete	(0.01 ~ 2.00) cm <sup>3</sup> /cm <sup>2</sup>
KS F 2421 : 2016	Method of test for air content of fresh concrete by pressure method	(0.5 ~ 10.0) %
KS F 2422 : 2007	Method of obtaining and testing drilled cores and sawed beams of concrete	(2.5 ~ 300.0) MPa
KS F 2423 : 2016	Method of test for splitting tensile strength of concrete	(0.5 ~ 50.0) MPa
KS F 2424 : 2015	Testing method for length change of mortar and concrete	(0.01 ~ 5.00) %
KS F 2426 : 2010	Testing method for compressive strength of mortar grouting	(0.5 ~ 150.0) MPa
KS F 2436 : 2007	Testing method for time of setting of concrete mixture by penetration resistance	20 min ~ 13 h
KS F 2446 : 2000	Testing method for bulk specific gravity and density of compacted bituminous mixtures using saturated dry specimens	(1.000 ~ 5.000) g/cm <sup>3</sup>
KS F 2449 : 2002	Method of test for air content of fresh concrete by volumetric method	(0.5 ~ 10.0) %

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.003 Cements and Related Products

Test Method	Standard designation	Test range
KS F 2451 : 2009	Method of test for waterproof agent and admixture of cement for mortar in building construction 4.1 Setting Time 4.2 Stability 4.3 Compressive Strength 4.4 Water absorption coefficient 4.5 Ratio of water permeability 4.6 Adhesive strength :	30 min ~ 13 h - (0.5 ~ 180.0) N/mm <sup>2</sup> 0.01 ~ 2.00 0.01 ~ 2.00 (0.01 ~ 3.50) N/mm <sup>2</sup>
KS F 2456 : 2013	Testing method for resistance of concrete to rapid freezing and thawing	-
KS F 2459 : 2002	Testing methods for density, water content, absorption and compressive strength of cellular concrete 1. Density 2. Water content 3. Absorption 4. Compressive Strength	(0.01 ~ 3.50) g/cm <sup>3</sup> (0 ~ 150) % (0 ~ 150) % (0.1 ~ 50.0) N/mm <sup>2</sup>
KS F 2460 : 2002	Testing methods for volume change of cellular concrete	(0.01 ~ 5.00) %
KS F 2560 : 2007	Chemical admixtures for concrete 6.1.6 a) Slump 6.1.6 b) Air Content 6.1.6 c) Unit Volume Weight 6.1.6 d) Bleeding 6.1.6 e) Setting Time 6.1.6 f) Compressive Strength 6.1.6 g) Length Change 6.1.6 h) Freezing and Thawing 6.1.6 i) Air and Slump Loss 6.3 Setting Time	(0 ~ 250) mm (0.5 ~ 10.0) % (0.01 ~ 5.00) kg/m <sup>3</sup> (0.01 ~ 2.00) cm <sup>3</sup> /cm <sup>2</sup> 20 min ~ 13 h (2.5 ~ 300.0) MPa (0.01 ~ 5.00) % (0.1 ~ 100) % (0 ~ 250) mm, (0.5 ~ 10.0) % 20 min ~ 13 h
KS F 2562 : 2004	Expansive additive for concrete 7.1 Fineness 7.3 Setting Time 7.4 Restrained Expansion of Mortar 7.5 Compressive Strength	(2 000 ~ 10 000) cm <sup>2</sup> /g 30 min ~ 13 h (-0.100 ~ 0.100) % (0.5 ~ 180.0) MPa

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.003 Cements and Related Products

Test Method	Standard designation	Test range
KS F 2563 : 2009	Ground granulated blast-furnace slag for use in concrete 8.2 Density 8.3 Fineness 8.4 Activity Index & Ratio of flow	(1.00 ~ 4.00) g/cm <sup>3</sup> (2 000 ~ 10 000) cm <sup>2</sup> /g (0 ~ 150) % (0 ~ 150) %
KS F 2594 : 2015	Method of test for slump flow of fresh concrete	(20 ~ 700) mm
KS F 2609 : 2008	Determination of the water absorption coefficient of building materials	(0.01 ~ 5.00) kg/m <sup>2</sup> ·h□
KS F 4001 : 2016	Precast concrete paving flags 9.2 Flexural Strength 9.3 Water Absorbancy 9.4 Thickness of surface layer	(0.0 ~ 20.0) MPa (0 ~ 150) % (0.1 ~ 50.0) mm
KS F 4002 : 2011	Hollow concrete blocks 6.1 Appearance 6.2 Dimension 9.2 Specific gravity(air-dry) 9.3 Compression Strength 9.4 Water Absorption	- (1 ~ 600) mm 0.1 ~ 5.0 (1 ~ 30) N/mm <sup>2</sup> (1 ~ 20) %
KS F 4004 : 2013	Concrete bricks 6.1 Appearance 6.2 Dimension 9.2 Specific gravity(air-dry) 9.3 Compression Strength 9.4 Water Absorbancy	- (1 ~ 600) mm 0.1 ~ 3.0 (1 ~ 50) N/mm <sup>2</sup> (1 ~ 20) %
KS F 4005 : 2004	Concrete curb-gutters and reinforced concrete curb-gutters 4.2 Flexural Strength 5.0 Dimension	(0.1 ~ 50.0) kN (1 ~ 1 000) mm
KS F 4006 : 2013	Concrete curbs 5.1 Appearance 6.1 Dimension 9.2 Bending Test 9.3 Thickness of surface layer 9.4 Water Absorption	- (1 ~ 1 000) mm (1.0 ~ 300.0) kN (1 ~ 20) mm (0 ~ 20) %

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.003 Cements and Related Products

Test Method	Standard designation	Test range
KS F 4009 : 2016	Ready-mixed concrete 9.1 Sampling 9.2 Slump 9.3 Slump Flow 9.4 Air Content 9.5 Compressive Strength and Flexural Strength 9.7 Unit Volume Weight Appendix 8.1.7 Setting Time Appendix 8.1.8 Compression Strength ratio of mortar	- (0 ~ 250) mm (20 ~ 700) mm (0.5 ~ 10.0) % (2.5 ~ 300.0) MPa, (0.5 ~ 30.0) MPa  (0.01 ~ 5.00) kg/m <sup>3</sup> (0 ~ 60) min (10 ~ 200) %
KS F 4010 : 2014	Reinforced concrete flumes and bench flumes 5. Shape and dimensions	(1 ~ 5 000) mm
KS F 4023 : 2002	Anchor block for concrete pole 5. Shape and dimensions	(1 ~ 3 000) mm
KS F 4029 : 2007	Pressed cement roof tiles 5.1 Appearance 6.1 Dimensions and tolerances 9.2 Flexural load at break 9.3 Water absorption 9.4 Immersion heating film	- (1 ~ 600) mm (10.0 ~ 8 000.0) N (0 ~ 20) % -
KS F 4035 : 2012	Precast terrazzo 3.2.1 Dimension 7.3 Attendance percent 7.5 Right angle degree	(1 ~ 600) mm (0 ~ 100) % (0.01 ~ 2.00) mm
KS F 4038 : 2014	Decorated concrete blocks 5.1 Dimension 7.2 Compression Strength 7.3 Water Absorption	(1 ~ 1 000) mm (1.0 ~ 50.0) MPa (0 ~ 50) %
KS F 4303 : 2016	Pretensioned spun concrete piles 3.2 Dimension 7.1 Appearance	(0.1 ~ 17) m -
KS F 4304 : 2015	Prestressed spun concrete poles 4.1 Appearance 5.2 Dimension	- (0.1 ~ 17) m

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.003 Cements and Related Products

Test Method	Standard designation	Test range
KS F 4306 : 2003	Pretensioned spun high strength concrete piles 4.1 Appearance 6.2 Dimension	- (0.1 ~ 17) m
KS F 4402 : 2016	Vibrated and rolled reinforced concrete pipe 4.1 Appearance 5.1 Dimension	- (1 ~ 6 000) mm
KS F 4403 : 2004	Reinforced spun concrete pipes 4.1 Appearance 5.1 Shape and dimensions	- (1 ~ 6 000) mm
KS F 4405 : 2002	Core type prestressed concrete pipes 4.1 Appearance 5.1 Shape and dimensions	- (1 ~ 6 000) mm
KS F 4406 : 2014	Prestressed concrete-steel cylinder pipe 4. Appearance and dimension	(1 ~ 7 500) mm
KS F 4419 : 2016	Concrete interlocking block for side walk and road 4.1 Appearance 5.1 Dimension 8.2 Bending Test 8.3 Permeability 8.4 Thickness of colored	- (1 ~ 600) mm (1.0 ~ 20.0) MPa (0.01 ~ 15.0) mm/sec (0.1 ~ 50.0) mm
KS F 4739 : 2016	Artificial silica marble panel 4.1 Appearance 8.1 Specific gravity, Water absorption 8.2 Local compressive strength 8.3 Bending strength 8.4 Impact strength 8.6 Water resistance 8.7 Pollution resistance 7.2 Dimension	- 1.0 ~ 3.5, (0.01 ~ 1.00) % (0.1 ~ 20.0) N/mm <sup>2</sup> (0.1 ~ 10.0) N/mm <sup>2</sup> - - - (0.1 ~ 600.0) mm
KS F 9001 : 2004	Standard coating method of epoxy resin paints for waterproof and anticorrosion of concrete structures 6.2.2 Bonding Strength with Steel	(1 ~ 300) N/cm <sup>2</sup>

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.003 Cements and Related Products

Test Method	Standard designation	Test range
KS L 1592 : 2011	Cement for ceramic tiles(All Items)	
	7.3 Correction degree of situation	(10 ~ 50) min :
	7.4 Compressive strength	(1.0 ~ 100.0) N/mm <sup>2</sup>
	7.5 Water absorption	(0 ~ 30) %
	7.6 Shearing adhesive strength	(0.01 ~ 2.5) N/mm <sup>2</sup>
	7.7 Change in length	(0.0 ~ 1.0) %
	7.8 Water holding capacity	(10 ~ 100) %
	7.9 Opening time	(10 ~ 50) min
	KS L 3136 : 2005	Testing Method For Air Content Of Hydraulic Cement Mortar
KS L 5102 : 2001	Testing Method For Normal Consistency Of Hydraulic Cement	(10.0 ~ 80.0) %
KS L 5105 : 2007	Testing Method For Compressive Strength Of Hydraulic Cement Mortars	(1.0 ~ 100.0) N/mm <sup>2</sup>
KS L 5106 : 2009	Testing Method For Fineness Of Portland Cement By Air Permeability Apparatus	(2 000 ~ 10 000) cm <sup>2</sup> /g
KS L 5107 : 2001	Testing method for autoclave expansion of portland cement	(0.01 ~ 2.00) %
KS L 5108 : 2007	Testing method for setting time of hydraulic cement by vicat needle	30 min ~ 13 h
KS L 5110 : 2001	Testing method for specific gravity of hydraulic cement	(1.00 ~ 3.50) g/cm <sup>3</sup>
KS L 5113 : 2008	Testing method for whiteness of white portland cement	80 ~ 99
KS L 5201 : 2016	Portland Cement	
	5.1 Sampling	-
	5.3 Fineness	(2 000 ~ 10 000) cm <sup>2</sup> /g
	5.4 Stability	(0.01 ~ 2.00) %
	5.5 Setting Time	30 min ~ 13 h
	5.6 Compressive Strength	(0.5 ~ 150.0) MPa

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.003 Cements and Related Products

Test Method	Standard designation	Test range
KS L 5204 : 2012	White Portland cement 5.1 Sampling 5.3 Fineness 5.4 Stability 5.5 Setting Time 5.6 Compressive Strength 5.7 Whiteness	- (2 000 ~ 10 000) $\text{cm}^2/\text{g}$ (0.01 ~ 2.00) % 30 min ~ 13 h (0.5 ~ 150.0) MPa 80 ~ 99
KS L 5205 : 1999	ALUMINA CEMENTS FOR REFRACTORIES 7. Specific Gravity 8. Fineness 9. Setting Time 10. Stability 12. Strength	(1.00 ~ 3.50) $\text{g}/\text{cm}^3$ (2 000 ~ 10 000) $\text{cm}^2/\text{g}$ 30 min ~ 13 h - (0.5 ~ 20.0) MPa (0.5 ~ 150.0) MPa
KS L 5207 : 2009	Physical testing method of aluminous cement for refractories 3.1 Specific Gravity : 3.2 Fineness : 3.3 Setting Time : 3.4 Stability 3.5 Flow 3.6 Strength :	(1.00 ~ 3.50) $\text{g}/\text{cm}^3$ (2 000 ~ 10 000) $\text{cm}^2/\text{g}$ 30 min ~ 13 h (50 ~ 120) mm (0.5 ~ 20.0) MPa (0.5 ~ 150.0) MPa
KS L 5210 : 2016	Portland blast-furnace slag cement 5.1 Sampling 5.3 Fineness 5.4 Stability 5.5 Setting Time 5.6 Compressive Strength	- (2 000 ~ 10 000) $\text{cm}^2/\text{g}$ (0.01 ~ 2.00) % 30 min ~ 13 h (0.5 ~ 150.0) MPa
KS L 5211 : 2013	Fly-ash cement 7.1 Sampling 7.2 Fineness 7.3 Setting Time 7.4 Stability 7.5 Compressive Strength	- (2 000 ~ 10 000) $\text{cm}^2/\text{g}$ 30 min ~ 13 h (0.01 ~ 2.00) % (0.5 ~ 150.0) MPa
KS L 5219 : 2012	Masonry cement 7. Sampling 9. Fineness 10. Standard Cone Penetration 11. Stability 12. Setting Time	- (1.0 ~ 30.0) % (10.0 ~ 80.0) % (0.01 ~ 2.00) % 30 min ~ 13 h



# Korea Laboratory Accreditation Scheme

No. KT011

## 01.003 Cements and Related Products

Test Method	Standard designation	Test range
	13. Specific Gravity 19. Compressive Strength 20. Water Retentivity	(1.00 ~ 3.50) g/cm <sup>3</sup> (0.5 ~ 150.0) MPa (50 ~ 90) %
KS L 5220 : 2007	Dry ready mixed cement mortar 7.1 Sampling 7.4 Compressive Strength	- (0.5 ~ 150.0) MPa
KS L 5401 : 2012	Portland pozzolan cement 7.1 Sampling 7.3 Fineness 7.4 Stability 7.5 Setting Time 7.6 Compressive Strength	- (2 000 ~ 10 000) cm <sup>2</sup> /g (0.01 ~ 2.00) % 30 min ~ 13 h (0.5 ~ 150.0) MPa
KS L 5405 : 2016	Fly ash 7.1 Sampling 8.4 Specific Gravity 8.5 Fineness	- (1.00 ~ 3.50) g/cm <sup>3</sup> (2 000 ~ 10 000) cm <sup>2</sup> /g
KS L ISO 679 : 2006	Methods of testing cements - Determination of Strength	(0.5 ~ 150.0) MPa
KS F 3510 : 2004	Clay roof tiles 4 Appearance 5 Shape & dimension 6.3 Flexural breaking-load 6.4 Water absorption 6.5 Resistance for freezing & thawing	- (0.1 ~ 600) mm Min. 1N Min. 0.1% -
KS F 4012 : 2013	Reinforced concrete manhole blocks for sewerage works 5.1 Appearance 5.2 Shape & dimension	- (1 ~ 5 000) mm
KS L 3511 : 2001	High alumina and fire clay castable refractories 4. Strength after drying on (103~110)°C	(0.01 ~ 200) Mpa
KS L 3513 : 1976	High Alumina and fire clay plastic Refractories 4. Strength after drying on (105~110)°C	(0.001 ~ 100) Mpa
KS L 3521 : 1997	Light weight castable refractories 4. Strength after drying on (105~110)°C	(0.001 ~ 100) Mpa
JIS A 1101 : 2005	Method of test for slump of concrete	(0 ~ 250) mm

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.003 Cements and Related Products

Test Method	Standard designation	Test range
JIS A 1115 : 2005	Method of sampling fresh concrete	-
JIS A 1123 : 2012	Method of test for bleeding of concrete	(0.01 ~ 5.00) kg/m <sup>3</sup>
JIS A 6204 : 2011	Chemical admixtures for concrete 6.2.7 a) Slump 6.2.7 b) Air Content 6.2.7 c) Bleeding 6.2.7 d) Setting Time 6.2.7 e) Compressive Strength 6.2.7 f) Length Change 6.2.7 g) Freezing and Thawing 6.2.7 h) Air and Slump Loss 6.2.7 i) Air and Slump Loss	(0 ~ 250) mm (0.5 ~ 10.0) % (0.01 ~ 5.00) kg/m <sup>3</sup> 30 min ~ 13 h (2.5 ~ 300.0) MPa (0.01 ~ 5.00) % (0 ~ 100) % (0 ~ 250) mm (0.5 ~ 10.0) % (0 ~ 250) mm (0.5 ~ 10.0) %
JIS R 5210 : 2009	Portland cement 6.1 Specific Gravity Fineness(Blaine) Setting Time Stability Compressive Strength	(1.00 ~ 3.50) g/cm <sup>3</sup> (2 000 ~ 10 000) cm <sup>2</sup> /g 30 min ~ 13 h (0.01 ~ 2.00) % (2.5 ~ 300.0) MPa

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.004 Aggregate and Related Products

Test Method	Standard designation	Test range
KS F 2340 : 2014	Standard test method for sand equivalent value of granular soils and fine aggregates	(0.1 ~ 100) %
KS F 2355 : 2013	Standard test method for coating and stripping of asphalt-aggregate mixtures	-
KS F 2470 : 2007	Method of test for surface moisture in coarse aggregate	(0.01 ~ 100.00) %
KS F 2501 : 2007	Method of sampling aggregate	-
KS F 2502 : 2014	Standard test method for sieve analysis of fine and coarse aggregates	(0.1 ~ 100.0) %
KS F 2503 : 2014	Standard test method for density and absorption of coarse aggregate	(0.01 ~ 5.00) g/cm <sup>3</sup> (0.00 ~ 100.00) %
KS F 2504 : 2014	Standard test method for density and absorption of fine aggregates	(1.00 ~ 5.00) g/cm <sup>3</sup> (0.01 ~ 100.0) %
KS F 2505 : 2002	Methods of test for bulk density of aggregates and solid content in aggregates	(0.01 ~ 5.00) kg/L (0.1 ~ 100.0) %
KS F 2507 : 2007	Method of test for soundness of aggregates by use of sodium sulfate	(0.01 ~ 100.0) %
KS F 2508 : 2007	Method of test for resistance to abrasion of coarse aggregate by use of the Los Angeles machine	(0.01 ~ 100.0) %
KS F 2509 : 2002	Methods of test for surface moisture in fine aggregate	(0.1 ~ 100.0) %
KS F 2510 : 2002	Testing method of organic impurities in sands aggregate for concrete	-
KS F 2511 : 2007	Testing method for amount of material finer than 0.08 mm sieve in aggregate	(0.01 ~ 100.0) %
KS F 2512 : 2012	Method of test for clay lumps contained in aggregates	(0.01 ~ 100.0) %
KS F 2515 : 2014	Standard test method for chloride content in aggregate	(0.000 1 ~ 1.000) %,
KS F 2516 : 2014	Standard test method for content of soft particles in coarse aggregate by scratching	(0.01 ~ 100.0) %

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.004 Aggregate and Related Products

Test Method	Standard designation	Test range
KS F 2518 : 2015	Testing method for absorption and bulk specific gravity of stone	(1.00 ~ 5.00) g/cm <sup>3</sup> (0.001 ~ 100.0) %
KS F 2519 : 2015	Testing method for compressive strength of natural building stone	(0.1 ~ 200.0) MPa
KS F 2527 : 2016	Crushed aggregate for concrete 6.1 Sampling 6.2 Density and Absorption 6.3 Stability 6.4 Abrasion rate 6.5 Amount of material finer than 0.08 mm 6.6 Particle size 6.7 Rate of decision result for particle shape	- (1.00 ~ 5.00) g/cm <sup>3</sup> (0.001 ~ 100.0) % (0.01 ~ 100.0) % (0.01 ~ 100.0) % (0.01 ~ 100.0) % (0.01 ~ 100.0) %
KS F 2528 : 2002	Materials for soil-aggregate subbase, base and surface courses 10.1 Sampling 10.2 Particle size 10.3 Abrasion rate 10.4 Soil sampling 10.5 Liquid limit 10.6 Plastic limit and plastic index	- (0.01 ~ 100.0) % (0.01 ~ 100.0) % - NP, Min 1.0 % NP, Min 1.0 %
KS F 2530 : 2015	Stones 4. Appearance & Dimension 5.1 Apparent specific gravity 5.2 Absorption 5.3 Compressive strength	Min 0.01cm (1.00 ~ 5.00) g/cm <sup>3</sup> (0.001 ~ 100.0) % (0.1 ~ 300) MPa
KS F 2532 : 2007	Crushed stone, crushed slag and gravel for single or multiple bituminous surface treatments 4.1 Sampling 4.2 Abrasion rate 4.3 Unit volume mass 4.4 Particle size 4.5 Stability 4.6.1 Clay lumps 4.6.2 Content of soft particles 4.6.3 Light mass	- : (0.01 ~ 100.0) % (0.01 ~ 5.00) kg/L (0.01 ~ 100.0) % (0.01 ~ 100.0) % (0.01 ~ 100.0) % (0.01 ~ 100.0) % (0.01 ~ 100.0) %

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.004 Aggregate and Related Products

Test Method	Standard designation	Test range
KS F 2533 : 2002	Methods of test for particle density and water absorption of light weight coarse aggregates for structural concrete 6.1 The calculation of bulk specific gravity 6.2 The calculation of absorption	(1.00 ~ 5.00) g/cm <sup>3</sup> (0.001 ~ 100.00) %
KS F 2535 : 2014	Iron and steel slag for road construction 5.1 Appearance 5.2.6 Modified CBR 7.2 Color formation 7.3 Immersion expansion in water 7.4 Particle size 7.5 Unit volume mass 7.6 Compressive strength 7.7 Density 7.7 Absorption 7.8 Abrasion rate	- Min 0.1 % - : Min 0.01 % (0.01 ~ 100.0) % (0.01 ~ 5.00) kg/L Min 0.1 MPa (1.00 ~ 5.00) g/cm <sup>3</sup> (0.001 ~ 100.0) % : (0.01 ~ 100.0) %
KS F 2541 : 2002	Testing method for determination of aggregates crushing value	(0.01 ~ 100.0) %
KS F 2550 : 2002	Methods of test for total moisture content of aggregate and surface moisture in aggregate by drying	(0.01 ~ 100.0) %
KS F 2553 : 1997	Methods for samples of aggregate to testing size	-
KS F 2572 : 2010	Recycled aggregates from asphalt concrete pavement 5.2 Remedies asphalt content 5.3 Remedies asphalt penetration 5.4 Loss after Washing test 5.5 Impurity contents	Min 0.1% (0.01 ~ 50.0) 1/100 mm (0.01 ~ 100.0) % (0.001 ~ 100.00) %
KS F 2573 : 2014	Recycled aggregates for concrete 6.1 Sampling 6.2 Particle size 6.3 Density 6.3 Absorption 6.4 Abrasion rate 6.5 Rate of decision result for particle shape	- (0.01 ~ 100.0) % (1.00 ~ 5.00) g/cm <sup>3</sup> (0.001 ~ 100.0) % (0.01 ~ 100.0) % (0.1 ~ 100.0) %

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.004 Aggregate and Related Products

Test Method	Standard designation	Test range
	6.6 Amount of material finer than 0.08 mm 6.7 Clay lumps 6.9 Stability 6.10 Impurity contents	(0.1 ~ 100.0) % (0.1 ~ 100.0) %, (0.1 ~ 100.0) % (0.01 ~ 100) %
KS F 2574 : 2016	Recycled aggregates for subbase 7.1 Sampling 7.2 Particle size 7.3 Abrasion rate 7.4 Plasticity index and liquid limit 7.5 Modified CBR 7.6 Sand equivalent value 7.7 Impurity contents	- (0.01 ~ 100.0) % (0.01 ~ 100.0) % (0.1 ~ 100.0) % (0.1 ~ 100.0) % (0.01 ~ 100.0) % (0.01 ~ 100.0) %
KS F 2575 : 2013	Standard test method for flat or elongated particles in coarse aggregate	(0.01 ~ 100.0) %
KS F 2576 : 2010	Testing method for impurity contents of recycled aggregate	(0.01 ~ 100.0) %
KS F 2577 : 2002	Materials for shotcrete	(0.01 ~ 100.0) %
KS F 2578 : 2002	Fine aggregates for plaster 6.1 Sampling 6.2 Particle size 6.3 Density 6.3 Absorption 6.4 Stability 6.5 Amount of material finer than 0.08 mm 6.6 Clay lumps	- (0.01 ~ 100.0) % (1.00 ~ 5.00) g/cm <sup>3</sup> (0.01 ~ 100) % (0.1 ~ 100.0) % (0.1 ~ 100.0) % (0.1 ~ 100) %
KS F 2580 : 2007	Testing method of the immersion expansion in 80°C water of the iron and steel slag	Min. 0.1 %
ASTM C117:13	Standard Test Method for Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing	(0.1 ~ 100.0) %
ASTM C566-13	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying	(0.1 ~ 100.0) %
JIS A 1104 : 2006	Methods of test for bulk density of aggregates and solid content in	(0.01 ~ 5.00) kg/L

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.004 Aggregate and Related Products

Test Method	Standard designation	Test range
	aggregates 5.1 Unit Weight 6.b solidvolume percentage	(0.1 ~ 100.0) %
JIS A 1121 : 2007	Method of test for resistance to abrasion of coarse aggregate by use of the Los Angeles machine	(0.01 ~ 100.0) %

## 01.005 Wood and Related Products

Test Method	Standard designation	Test range
KS F 2198 : 2016	Determination of density and specific gravity of wood 7.1 Density	Min 0.01 g/cm <sup>3</sup>
KS F 2199 : 2016	Determination of moisture content of wood	Min 0.01 %
KS F 2206 : 2004	Method of compression test for wood	Min 0.01 N/mm <sup>2</sup>
KS F 2207 : 2004	Method of tension test for wood	Min 0.01 N/mm <sup>2</sup>
KS F 2208 : 2004	Method of bending test for wood	Min 0.01 N/mm <sup>2</sup>
KS F 2209 : 2004	Method of shear test for wood	Min 0.01 N/mm <sup>2</sup>
KS F 2221 : 2009	Method of impact for building beards	-
KS F 3005 : 2016	Crossties treated with creosote oil by pressure processes 6.1 Dimension	(0.1 ~ 1 000) mm
KS F 3101 : 2016	Ordinary plywood 6.1 Dimension 6.2 Adhesive Test 6.4 Moisture Content 6.8 Mass of Water Absorption	(0.1 ~ 1 000) mm Min 0.01 N/mm <sup>2</sup> Min 0.01 % Min 0.01 g

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.005 Wood and Related Products

Test Method	Standard designation	Test range
KS F 3103 : 2007	Flooring board 4. Shape and dimensions 5.1 Appearance 6.1 Moisture content 6.2 Bending strength	(0.1 ~ 1 000) mm - Min 0.01 % Min 0.01 N/mm <sup>2</sup>
KS F 3104 : 201	Particle boards 6.2 Dimension and squareness 6.3 Density Test 6.5 Bending Test 6.6 Wet Bending Test 6.7 Water Absorption Thickness Expansion Test 6.8 Peeling Strength 6.9 Maintenance of Screw 6.11 Surface Tension Strength 6.12 Impact Resistance Test 6.14 Alkali Resistance Test 6.15 Contamination Resistance Test	(0.1 ~ 1 000) mm Min 0.001 g/cm <sup>3</sup> Min 0.01 N/mm <sup>2</sup> Min 0.01 N/mm <sup>2</sup> Min 0.01 % Min 0.01 N/mm <sup>2</sup> Min 0.01 N Min 0.01 N/mm <sup>2</sup> - - -
KS F 3110 : 2016	Plywood for concrete form 7.1 Adhesive Test 7.6 Peeling Strength	Min 0.01 N/mm <sup>2</sup> Min 0.01 N/mm <sup>2</sup>
KS F 3111 : 2016	Natural wood veneer flooring board 7.1 Water Resistance Test 7.2 Moist heat resistance 7.3 Freezing resistance 7.4 Heating resistance 7.5 Contamination Resistance Test 7.6 Acid resistance 7.7 Alkali Resistance Test 7.8 Thinner resistance 7.9 Abrasion resistance 7.10 Discoloring resistance 7.11 Screen Cross Adhesive Test 7.13 Water content 7.14 Water absorption thickness expansion 7.15 Size change 7.16 Bending strength 7.17 Wet bending strength 7.18 Surface tension strength	Min 0.01 N/mm <sup>2</sup> - - - - - - - - - - - - - - - - - - Min 0.01 % Min 0.01 % Min 0.01 % Min 0.01 N/mm <sup>2</sup> Min 0.01 N/mm <sup>2</sup> Min 0.01 N/mm <sup>2</sup>



# Korea Laboratory Accreditation Scheme

No. KT011

## 01.005 Wood and Related Products

Test Method	Standard designation	Test range
KS F 3113 : 2016	Structural plywood 6.1 Adhesive Test 6.4 Bending Test 6.5 Compressive strength 6.11 Mass of Water Absorption	Min 0.01 N/mm <sup>2</sup> Min 0.01 N/mm <sup>2</sup> Min 0.01 N/mm <sup>2</sup> Min 0.01 g
KS F 3200 : 2016	Fiber boards 6.2 Dimension and squareness 6.3 Density Test 6.4 Moisture Content 6.6 Bending Test 6.7 Wet Bending Test 6.9 Water Absorption Thickness Expansion Test 6.11 Peeling Strength 6.12 Maintenance of Screw 6.16 Surface Tension Strength 6.17 Impact Resistance Test 6.19 Alkali Resistance Test 6.20 Contamination Resistance Test	(0.1 ~ 1 000) mm Min 0.001 g/cm <sup>3</sup> Min 0.01 % Min 0.01 N/mm <sup>2</sup> Min 0.01 N/mm <sup>2</sup> Min 0.01 % Min 0.01 N/mm <sup>2</sup> Min 0.01 N Min 0.01 N/mm <sup>2</sup> - - -
KS L 5114 : 2014	Fiber reinforced cement boards 10.2 Dimension 10.3 Bending Test 10.4 Absorbance 10.5 Bulk Specific Gravity 10.6 Permeability Test 10.8 Thermal Conductivity Percent	(0.1 ~ 1000) mm Min 0.001 Min 0.01 N/mm <sup>2</sup> - Min 0.001 % Min 0.001 W/m·K
KS L 5509 : 2016	Gypsum cement boards 7.2 Moisture Content and Bulk Specific Gravity 7.3 Bending Test	Min 0.01 % Min 0.01 Min 0.01 N/mm <sup>2</sup>
KS F 3109 : 2016	Door set 7. Dimension	(1 ~ 5 000)mm
KS F 3126 : 2008	Decoration wood-based flooring board 5.2 Dimension 6.1 Appearance 8.1 Thickness 8.2 Bending strength	(0.1 ~ 1 000) mm - (0.01 ~ 25) mm Min 0.01 N/mm <sup>2</sup>

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.005 Wood and Related Products

Test Method	Standard designation	Test range
	8.3 Wet bending strength	Min 0.01 N/mm <sup>2</sup>
	8.4 Surface tension strength	Min 0.01 N/mm <sup>2</sup>
	8.5 Abrasion resistance(method B)	-
	8.6 Water absorption thickness expansion	Min 0.01 %
	8.7 Size change	Min 0.01 %
	8.8 Impact resistance	-
	8.9 Scratch resistance	(1 ~ 500) N
	8.11 Cigarette resistance	-
	8.12 Discoloring resistance(method B)	-
	8.14 Water resistance test	-
	8.15 Water content	Min 0.01 N/mm <sup>2</sup>
	8.16 Moist heat resistance	Min 0.01 %
	8.17 Freezing resistance	-
	8.18 Heating resistance	-
	8.19 Acid resistance	-
	8.20 Alkali resistance	-
	8.21 Thinner resistance	-
	8.22 Screen cross adhesive test	-
Self-regulatory Safety Confirmation Safety Standards Notice annex 67 by Agency for Technology and Standards (No.2012-0800)	Indoor flooring	-
	Ch.2 Wood-based flooring board	(0.1 ~ 5 000) mm
	5.1 Shape	-
	5.2 Dimension	-
	6.2 Appearance	-
	6.3.1 Mechanical & physical property of Decoration wood-based flooring board	Min. 0.01 N/mm <sup>2</sup>
	- Flexural strength	Min. 0.01 N/mm <sup>2</sup>
	- Flexural strength(wet)	Min. 0.01 N/mm <sup>2</sup>
	- Surface Tension Strength	-
	- Abrasion Resistance	Min. 0.01 %
	- Water Absorption Thickness Expansion Test	Min. 0.01 %
	- Size change	-
	6.3.2 Performance Spec. of Decoration wood-based flooring board	-
	- Moist heat resistance	-
	- Freezing resistance	-
- Heating resistance	-	
- Acid resistance	-	

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.005 Wood and Related Products

Test Method	Standard designation	Test range
	<ul style="list-style-type: none"> <li>- Alkali resistance</li> <li>- Thinner resistance</li> <li>- Screen cross adhesion</li> <li>- Impact Resistance</li> <li>- Contamination Resistance</li> <li>- Adhesion Test</li> <li>- Moisture Content</li> </ul>	<ul style="list-style-type: none"> <li>-</li> <li>-</li> <li>-</li> <li>Min. 0.01 N/mm<sup>2</sup></li> <li>Min. 0.01 %</li> </ul>
	6.3.3 Performance of Decoration wood-based flooring board	(1 ~ 500) N
	<ul style="list-style-type: none"> <li>- Scratch resistance</li> <li>- Cigarette resistance</li> <li>- Discoloring resistance(method B)</li> </ul>	<ul style="list-style-type: none"> <li>-</li> <li>-</li> </ul>

## 01.006 Soil and Related Products

Test Method	Standard designation	Test range
KS F 2302 : 2002	Test method for particle size distribution of soils	(0.1 ~ 100) %
KS F 2303 : 2015	Test method for liquid limit and plastic limit of soils	(0.1 ~ 100) %
KS F 2306 : 2015	Test method for water content of soils	(0.1 ~ 900) %
KS F 2308 : 2016	Test method for density of soil particles	(0.01 ~ 4.00) g/cm <sup>3</sup>
KS F 2309 : 2009	Testing method for amount of material in passing standard sieve 75 $\mu$ m in soils	(0.1 ~ 100) %
KS F 2312 : 2016	Test method for soil compaction using a rammer	(0.01 ~ 4.00) g/cm <sup>3</sup>
KS F 2322 : 2015	Test methods for permeability of saturated soils	(10 <sup>0</sup> ~ 10 <sup>-8</sup> ) cm/sec
KS F 3504 : 2012	Gypsum boards 7.2 dimension 7.4 moisture content 7.5 bending breaking load	(0.1 ~ 1 000) mm (0.01 ~ 100) % (0.01 ~ 10 000) N

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.006 Soil and Related Products

Test Method	Standard designation	Test range
	7.6 water absorption peeling resistance 7.7 water resistance test 7.9 impact resistance test	- (0.01 ~ 100) % -
KS L 1001 : 2013	Ceramic tiles 5.1 appearance 6.3 dimension 6.4 warpage 6.5 irregularity of dimension 6.6 water absorption test 6.7 crack resistance test 6.8 abrasion test 6.9 fracture strength test 6.12 freezing and thawing 6.13 agents resistance test	- (0.1 ~ 1 000) mm (0.01 ~ 10) mm (0.01 ~ 10) mm (0.01 ~ 100) % - (0.01 ~ 100) g (0.01 ~ 2 000) N/cm - -
KS L 1003 : 2014	Heat resistant ceramic table wares 5.1 thermal shock test	-
KS L 1551 : 2014	Sanitary wares 8.1.1.a) ink test 8.1.1.b) rapid cooling test 8.1.1.c) crack test 8.2 efficiency test	(0.01 ~ 50) mm - - -
KS L 1553 : 2013	Testing method of acid proof porcelain for chemical industry 4.2 bending strength test	(0.01 ~ 3 000) N/cm <sup>2</sup>
Self-regulatory Safety Confirmation Safety Standards Notice by Agency for Technology and Standards (No.2014-0419)	Non slip tile 5.1 appearance 6.3 dimension 6.4 warpage 6.5 irregularity of dimension 6.6 water absorption test 6.7 crack resistance test 6.8 abrasion test 6.9 fracture strength test 6.12 freezing and thawing 6.13 agents resistance test 6.14 Slip resistance test	- (0.1 ~ 1 000) mm (0.01 ~ 10) mm (0.01 ~ 10) mm (0.01 ~ 100) % - (0.01 ~ 100) g (0.01 ~ 2 000) N/cm - - Min 0.01

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.006 Soil and Related Products

Test Method	Standard designation	Test range
JIS A 1202 : 2009	Test method for density of soil particles	(0.01 ~ 4.00) g/cm <sup>3</sup>
JIS A 1204 : 2009	Test method for particle size distribution of soils	(0.1 ~ 100) %
JIS A 1205 : 2009	Test method for liquid limit and plastic limit of soils 6.1 liquid limit 6.2 plastic limit	(0.1 ~ 100) % (0.1 ~ 100) %

# Korea Laboratory Accreditation Scheme

No. KT011

## 1.007 Glass and Related Products

Test Method	Standard designation	Test range
KS L 2002 : 2006	Tempered Glasses	Length : 0.1 mm ~ 5 000 mm Thickness : 0.01 mm ~ 300 mm Curve : 0.01 % ~ 0.5 %
KS L 2003 : 2013	Sealed Insulating Glass	Length : 0.1 mm ~ 5 000 mm Thickness : 0.01 mm ~ 300 mm Thermal Resistance : (0.001 ~ 0.80) K·m <sup>2</sup> /W Solar Heat Excluding Coefficient : 0.001 ~ 0.90 Dew point : (-60 ~ 20) °C Emissivity of Optical Thin Performance : 0.001 ~ 0.80
KS L 2004 : 2014	Laminated Glasses	Length : 0.1 mm ~ 5 000 mm Thickness : 0.01 mm ~ 300 mm Light Resistance: 0.1 % ~ 100 % Curve : 0.01 % ~ 0.5 %
KS L 2005 : 2009	Figured Glass	Length : 0.1 mm ~ 5 000 mm Thickness : 0.01 mm ~ 300 mm

# Korea Laboratory Accreditation Scheme

No. KT011

## 1.007 Glass and Related Products

Test Method	Standard designation	Test range
KS L 2007 : 2014	Safety Glasses for Road Vehicles	Thickness : 0.01 mm ~ 300 mm Visible Light Transmittance : 0.1 % ~ 100 % Distortion : 0.1 ' ~ 10 ' Abrasion Resistance : 0.1 % ~ 40 % Light Resistance: 0.1 % ~ 100 %
KS L 2014 : 2010	Solar reflective glass	Length : 0.1 mm ~ 5 000 mm Thickness : 0.01 mm ~ 300 mm Solar Heat Excluding Coefficient : 0.001 ~ 0.90 Light Resistance: 0.1 % ~ 100 % Abrasion Resistance : 0.1 % ~ 40 % Acid Resistance: 0.1 % ~ 100 % Alkali Resistance : 0.1 % ~ 100 %
KS L 2015 : 2006	Heat-strengthened glass	Length : 0.1 mm ~ 5 000 mm Thickness : 0.01 mm ~ 300 mm Curve :

# Korea Laboratory Accreditation Scheme

No. KT011

## 1.007 Glass and Related Products

Test Method	Standard designation	Test range
		0.01 % ~ 0.5 % Surface Compressive Stress : (0.1 ~ 169) MN/m <sup>2</sup>
KS L 2017 : 2008	Low emissivity glass	Length : 0.1 mm ~ 5 000 mm Thickness : 0.01 mm ~ 300 mm Emissivity : 0.001 ~ 1 Wet endurance : Min. 0.01
KS L 2424 : 2001	Heat resistant glass wares 4.1 Thermal shock test	-
KS L 2503 : 2009	Thermal Shock Test on Glass Containers	-
KS L 2408 : 2015	Glass tumblers 4.1 Appearance 4.3 Thermal shock test	- -
KS L 2501 : 2015	Glass bottle 4.1 Appearance 4.5 Thermal shock test	- -
Self-Safety Registration Safety Standard Annex 40 No. 2014-0420 (2014.09.01.)	Safety standard for subjected to Self-Safety confirmation industrial product - Safety Glasses for Road Vehicles	Thickness : 0.01 mm ~ 300 mm Visible Light Transmittance : 0.1 % ~ 100 % Distortion : 0.1 ' ~ 10 ' Abrasion Resistance :



# Korea Laboratory Accreditation Scheme

No. KT011

## 1.007 Glass and Related Products

Test Method	Standard designation	Test range
		0.1 % ~ 40 % Light Resistance: 0.1 % ~ 100 %
SPS-KFGIA-002-1799 : 2013	Gas Filled Insulating Glass Units	Length : 0.1 mm ~ 5 000 mm Thickness : 0.01 mm ~ 300 mm Thermal Resistance : (0.001 ~ 0.80) K·m <sup>2</sup> /W Solar Heat Excluding Coefficient : 0.001 ~ 0.90 Dew point : (-60 ~ 20) °C Emissivity of Optical Thin Performance : 0.001 ~ 0.80 Gas concentration : 0.1 % ~ 100 %
ASTM E2189:10e1	Standard Test Method for Testing Resistance to Fogging in Insulating Glass Units	-
ASTM E2190:10	Standard Specification for Insulating Glass Unit Performance and Evaluation	Dew point : (-60 ~ 20) °C Ar concentration : 0.1 % ~ 100 %
ASTM E2269:14	Standard Test Method for Determining Argon Concentration in Sealed Insulating Glass Units using Gas Chromatography	0.1 % ~ 100 %
KS L 2514 : 2011	Testing method on transmittance and emittance	175 nm ~ 3300 nm, 1 nm

# Korea Laboratory Accreditation Scheme

No. KT011

## 1.007 Glass and Related Products

Test Method	Standard designation	Test range
	of heat glasses and evaluation of solar heat gain coefficient	
KS L 2525 : 2006	Evaluation on thermal resistance of flat glasses and thermal transmittance of glazing	Max 4 W/(m <sup>2</sup> · K)

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
KS F 2337 : 2012	Testing method for resistance to plastic flow of bituminous mixtures using marshall apparatus 4.2 marshall apparatus 4.2 flowvalue	1 N ~ 50 kN (0.1 ~ 50) mm
KS F 2354 : 2013	Testing method for bitumen content from Bituminous paving mixtures	( 0.1 ~ 10 ) %
KS F 2357 : 2009	Aggregates for asphalt mixtures 6.2 Particle size 6.3 Density and Water absorption 6.4 Stability 6.5 Abrasion rate 6.6 Side feldspar content 6.7 Fine aggregate porosity 6.8 Sand equivalent value 6.9 Crushing of the coarse aggregate surface	( 0.1 ~ 100 ) % Min 0.10 g/cm <sup>3</sup> , 0.01 % ( 0.1 ~ 100 ) % ( 0.1 ~ 100 ) % ( 0.1 ~ 100 ) % ( 0.1 ~ 100 ) % ( 0.1 ~ 100 ) % ( 0.1 ~ 100 ) %
KS F 2364 : 2013	Testing method for percent air voids in compacted dense and open bituminous paving mixtures	( 0.1 ~ 10 ) %
KS F 2366 : 2010	Testing method for theoretical maximum specific gravity and density of	( 1.00 ~ 4 ) g/cm <sup>3</sup>

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
	bituminous paving mixtures	
KS F 2367 : 2006	Testing method for thickness or height of compacted bituminous paving mixture specimens 4.3.3 thickness or height	( 0.1 ~ 300 ) mm
KS F 2369 : 2016	Cold-mixed, cold-laid bituminous paving mixture for patching 8.3 Stability and Flowability 8.4 Prosimity 8.5 Asphalt content 8.6 Steeping residual stability	Min 0.01 kN, 0.01 mm ( 0.1 ~ 10 ) % ( 0.1 ~ 10 ) % ( 0.1 ~ 100 ) %
KS F 2374 : 2010	Standard test method for wheel tracking of asphalt mixtures	(0 ~ 10 000) cycles/mm
KS F 2381 : 2007	Testing method for recovery of asphalt from solution by Abson	-
KS F 2385 : 2013	Drained asphalt mixtures 5.2.2 Stability 5.2.3 Flowability 5.2.4 Prosimity Annex A. Modulus of permeability	Min 0.01 kN Min 0.01 mm ( 0.1 ~ 50 ) % 1 ~ 1.0 × 10 <sup>□</sup>
KS F 2446 : 2000	Testing method for bulk specific gravity and density of compacted bituminous mixtures using saturated surface dry specimens	( 1.00 ~ 4.0 ) g/cm <sup>3</sup>
KS F 2621 : 2000	Testing methods of sealants for sealing and glazing in buildings 4.1 slump 4.2 elastic recovery 4.3 tensile properties 4.4 adhesive properties at maintained extension 4.6 adhesive properties at constant	( 0.1 ~ 150 ) mm ( 0.1 ~ 100 ) % ( 0.01 ~ 10 ) N/mm <sup>2</sup> - -

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
	temperatures 4.8 adhesive properties at maintained extension after immersion in water 4.9 adhesive properties after immersion in water 4.11 weight and volume 4.12 initial water properties 4.13 storage stability test 4.14 durability 4.15 capable time for use 4.16 tack free 4.17 specific gravity 4.18 tensile adhesive properties structural	- - ( 0.1 ~ 50 ) % - - - - ( 0.1 ~ 100 ) h ( 0.1 ~ 100 ) h ( 0.01 ~ 12 ) ( 0.01 ~ 10 ) N/mm <sup>2</sup>
KS F 3230 : 2013	WPC(Wood Plastic Composite) deck floor board 7.1 Specific gravity 7.2 Maximum bending load 7.3 Bending creep 7.4 Impact resistance 7.5 Impact strength 7.6 Distortion characteristics 7.7 Retention screws 7.9 Water absorption 7.10 Freeze-thaw test 7.12 Weathering 7.15 Flammability	(0.001 ~ 10) (0.001) (0.1 ~ 20 000) N (0.1 N) (0.001 ~ 10) % (0.001 %) (0.01 ~ 50) kJ/m <sup>2</sup> (0.01 kJ/m <sup>2</sup> ) (0.01 ~ 50) % (0.01 %) (0.1 ~ 5 000) N (0.1 %) (0.01 ~ 100) % (0.01 %) (0.1 ~ 200) % (0.1 %) (0.1 ~ 200) % (0.1 %) Length of Carbonization (0.1 ~ 30) cm The remaining flame (0.1 ~ 200) s
KS F 3501 : 2013	Filler for bituminous paving mixtures 4.3.1 Moisture content 4.3.2 Particle size 4.3.3 Plasticity Index 4.3.4 Flow 4.3.5 Immersion expansion	( 0.1 ~ 50 ) % ( 1 ~ 50 ) % ( 0.1 ~ 30 ) % ( 0.1 ~ 50 ) % ( 0.1 ~ 30 ) %

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
	4.3.6 Delamination resistance 4.3.7 Specific gravity	( 0.1 ~ 20 ) % ( 1 ~ 3 ) g/m <sup>3</sup>
KS F 4040 : 2004	Insulating mortar 6.4 Thermal conductivity 6.5 Adhesive strength 6.6 Dimensional stability	0.001 W/m·K Min 0.01 N/mm <sup>2</sup> ( 0.001 ~ 10 ) %
KS F 4044 : 2004	Hydraulic cement grout(nonshrink) 6.3 Falling hour 6.4 Flow test 6.5 Time of setting 6.6 Bleeding test 6.7 High expansion 6.8 Compressive strength	Min 0.1 sec Min 0.1 mm Min 1 min Min 0.01 % Min 0.01 % Min 0.1 N/mm <sup>2</sup>
KS F 4052 : 2004	Waterproofing asphalts for building construction 5.3 Softening point 5.4 Cone penetration 5.5 Residue on evaporation 5.6 Flash point 5.7 Toluene	( 0.1 ~ 200 ) °C 300 ( 1/10 mm ) ( 0.1 ~ 100 ) % Min 1 °C Min 0.1 %
KS F 4561 : 2016	Braille blocks for the visually impaired 6.1 Shape 6.2 Dimensions 7.1 Slip resistance test 8.7.a) Performance of concrete(flexural strength) 8.7.b) Performance of concrete(water absorption) 8.7.c) Performance of concrete (pigmented layer thickness) 8.8.a) Performance of clay bricks (water absorption) 8.8.b) Performance of clay bricks (compressive strength) 8.8.c) Performance of clay bricks (flexural strength) 8.9.a) Performance of porcelain	- - Min 5 BPN Min 0.1 mm ( 0.1 ~ 100 ) % Min 0.01 N/mm <sup>2</sup> Min 0.01 N/mm <sup>2</sup> ( 0.1 ~ 100 ) % ( 0.1 ~ 100 ) g Min 0.01 N/mm <sup>2</sup>

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
KS F 4561 : 2016	(water absorption)	-
	8.9.b) Performance of porcelain (abrasion resistance)	-
	8.9.c) Performance of porcelain (flexural strength)	( 0.1 ~ 100 ) %
	8.9.d) Performance of porcelain (freeze and melt resistance test)	Min 0.01 N/mm <sup>2</sup>
	8.9.e) Performance of porcelain (chemicals resistance test)	-
	8.10.a) Performance of artificial marble (water absorption)	-
	8.10.b) Performance of artificial marble (flexural strength)	-
	8.10.c) Performance of artificial marble (impact resistance test)	( 0.1 ~ 100 ) %
	8.10.d) Performance of artificial marble (weathering resistance)	Min 0.01 N/mm <sup>2</sup>
	8.11.a) Performance of stone (water absorption)	( 0.1 ~ 100 ) %
	8.11.b) Performance of stone (compressive strength)	Min 0.01 N/mm <sup>2</sup>
	8.12.a) Performance of terrazzo (water absorption)	-
	8.12.b) Performance of terrazzo (flexural strength)	-
	KS F 4715 : 2007	Wall coatings for thin textured finishes
6.5 Storage stability test		-
6.6 Early dry of hair crack resistance test		-
6.7 Adhesive strength		( 0.1 ~ 10 ) N/mm <sup>2</sup>
6.8 Cold-hot recycle resistance		( 0.1 ~ 10 ) N/mm <sup>2</sup>
6.9 Water absorption coefficient		Min 0.1
6.10 Washability		kg/(m <sup>2</sup> ·h□□)
6.11 Impact resistance		-
6.12 Alkali resistance		-
6.13 Weathering resistance		-
6.14 Moisture permeability		-
6.15 Light fastness		-
6.16 Flame resist	-	

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
	6.17 Flexibility	- - - -
KS F 4716 : 2016	Cement filling compound for surface preparation 5.5 Fluidity test 5.6 Adhesive strength 5.7 Hair crack resistance test 5.8 Impact resistance 5.9 Water absorption coefficient 5.10 Cold-hot recycle resistance 5.11 Moisture permeability	( 0.1 ~ 100 ) % ( 0.1 ~ 10 ) N/mm <sup>2</sup> - - Min 0.1 kg/(m <sup>2</sup> ·h <sup>0.5</sup> ) - -
KS F 4910 : 2010	Sealants for sealing and glazing in buildings 7.2.1 slump 7.2.2 elastic recovery 7.2.3 tensile properties 7.2.4 adhesive properties at maintained extension 7.2.5 adhesive properties at variable temperatures(heating of comp) 7.2.6 adhesive properties after repeated extension and reduction 7.2.8 adhesive properties at maintained extension after immersion in water 7.2.9 adhesive properties after immersion in water 7.2.10 compressive properties 7.2.11 weight and volume	( 0.1 ~ 50 ) mm ( 0.1 ~ 100 ) % ( 0.01 ~ 10 ) N/mm <sup>2</sup> - - - - - - Min 0.1 N/mm <sup>2</sup> ( 0.1 ~ 100 ) %
KS F 4916 : 2016	Polymer for cement modifiers 7.1 Appearance 7.2 Specific gravity 7.3 pH 7.4 Viscosity 7.5 Nonvolatile content 8.1 Appearance	- Min 0.001 Min 0.01 Min 0.1 mPa·s Min 0.01 % -

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
	8.2 Volatile content 8.3 Ignition remains 8.4 Apparent density 9.4 Unit volume weight 9.5 Flexural strength, Compressive strength 9.6 Adhesive strength 9.7 Water absorption 9.8 Amount of water permeability 9.9 Dimensional stability	Min 0.01 % Min 0.01 % Min 0.001 g/mL Min 0.001 kg/L Min 0.1 N/cm <sup>2</sup> Min 0.1 N/cm <sup>2</sup> Min 0.01 % Min 0.01 g Min 0.001 %
KS F 4918 : 2008	Cement mixed siliceous powder waterproof coatings 5.4 adhesives strength 5.5 hair crack resistance 5.6 mass of water absorption 5.7 compressive strength	Min 0.1 N/cm <sup>2</sup> - Min 0.01 g Min 0.1 N/cm <sup>2</sup>
KS F 4919 : 2008	Cement-polymer modified waterproof coatings 4.1 Appearance 5.4 adhesives strength 5.5 hair crack resistance 5.6 mass of water absorption 5.7 tensile properties 5.8 water permeability resistance 5.9 Moisture permeability 5.10 Crack resistance test 5.11 Alkali resistance test	- Min 0.01 N/mm <sup>2</sup> - Min 0.01 g Tensile strength : Min 0.01 N/mm <sup>2</sup> Elongation : Min 0.1 % - Min 0.1 m - -
KS F 4925 : 2011	Cement mortar mixed liquid waterproofing agent 5.3 Time of setting 5.4 Stability 5.5 Compressive strength 5.6 Water absorption 5.7 Water permeability 5.8 Adhesive strength	(0.1 ~ 20) h - Min 0.01 N/mm <sup>2</sup> (0.001 ~ 2.0) (0.001 ~ 2.0) Min 0.001 N/mm <sup>2</sup>



# Korea Laboratory Accreditation Scheme

No. KT011

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
KS F 4926 : 2016	Waterproofing admixture agent for concrete	
	6.5 Time of setting	Min $\pm$ 0.1 min
	6.6 Air content	Min $\pm$ 0.01 %
	6.7 Dimensional stability	Min 0.01 %
	6.8 Freeze and melt resistance test	Min 0.1 %
	6.9 Accelerated carbonation test	(0.001 ~ 2.0)
	6.10 Compressive strength	(0.001 ~ 2.0)
	6.11 Water absorption	(0.001 ~ 2.0)
KS L 1593 : 2016	Organic adhesives for ceramic tiles	
	6.3.1 storage stability test	-
	6.3.3 adhesives strength	Min 0.01 N/cm <sup>2</sup>
	6.3.4 heat resistance	-
KS L 3101 : 2002	6.3.5 sliding resistance	-
	Shape and dimension of fire brick	
KS L 3115-1 : 2015	5 dimension	(0.01 ~ 300) mm
	Testing method for cold compressive strength of refractory bricks – Part 1 : Test without packing	Min 0.01 N/mm <sup>2</sup>
KS L 3409 : 2015	Physical testing method for high purity carbon material	
	6.2 compressive strength	Min 0.01 N/cm <sup>2</sup>
	6.5 volume specific gravity	Min 0.001 g/cm <sup>3</sup>
KS L 3411 : 2010	Testing methods for carbon blocks	
	7.1.1 compressive strength	Min 0.01 N/cm <sup>2</sup>
	7.1.3 volume specific gravity	Min 0.001 g/cm <sup>3</sup>
	7.2.1 moisture	Min 0.001 %
	7.2.2 volatiles	Min 0.001 %
	7.2.3 ash	Min 0.001 %
	7.2.4 fixed carbon	Min 0.01 %
	Ash for carbon blocks	Min 0.001 %
Moisture for carbon blocks	Min 0.001 %	
KS L 4201 : 2012	Clay brick	
	7.3 dimension	(0.01 ~ 300) mm
	7.4 water absorption	Min 0.1 %
	7.5 compressive strength	Min 0.01 N/mm <sup>2</sup>

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
KS M 2201 : 2007	Straight Asphalt 7.3 Penetration 7.4 Softening point 7.5 Ductility 7.6 Toluene-soluble contents 7.8 Flash point	(0 ~ 400) Min 0.5 °C Min 1cm Min 0.1 % Min 0.5 °C
KS M 2203 : 2008	Emulsified Asphalt 6.5 Method for Residue after sieve test 6.6 Method for Adhered part to aggregate 6.12 Method for Particle charge 6.13 Method for Residue by Evaporation 6.14 Method for Penetration of Residue by Evaporation 6.15 Method for ductility of Residue by Evaporation 6.16 Method for Toluene-soluble contents of Residue by Evaporation 6.17 Method for storage stability 6.18 Method for Low-Temperature Stability	- Min 0.1 % - - Min 0.1 % (0 ~ 400) Min 1cm Min 0.1 % Min 0.1 % -
KS M 2250 : 2007	Testing Method for Softening Point of Bituminous Materials(Ring and Ball Method)	Min 0.5 °C
KS M 2252 : 2007	Testing Method for Penetrating of Bituminous Materials	(0 ~ 400)
KS M 2254 : 2007	Testing method for ductility of bituminous materials	Min 1cm
KS M 2255 : 2007	Testing method for loss on heating of oil and asphaltic compounds	Min 0.1 %
KS M 2256 : 2007	Testing method for solubility of bituminous materials in trichloroethane	Min 0.1 %
KS M 2257 : 2007	Testing method for distillation of cut-back asphaltic products	Min 0.1 %

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
KS M 2270 : 2007	Asphalt primer used in roofing, dampproofing and waterproofing 5.2 Viscosity 5.3 Distillation 5.4 Distillation tailings 5.6 Residue on sieve	Min 1 Min 0.1 % Min 0.1 % Min 0.01 %
KS F 4524 : 2007	Sheaves for sliding doors and windows 5. Shape and dimensions 6.1 Appearance 6.2 durability	(0.01 ~ 300) mm - -
KS F 4534 : 2011	Fittings for sash windows 4.1 dimensions 5.1 Appearance 7.2 a) durability	(0.01 ~ 300) mm - -
KS F 4714 : 2012	Water repellent heat insulator made of perlite 1. dimensions 2. Specific Gravity	Min. 0.01 mm Min. 0.1 kg/m <sup>3</sup>
GR F 2016 : 2016	Recycled Composite Deck Board 6.1 Shape and dimensions 7.4 Specific gravity 7.5 Maximum bending load 7.6 Bending creep 7.7 Impact resistance 7.8 Impact strength 7.9 Distortion characteristics 7.10 Retention screws 7.11 Skid resistance 7.12 Water absorption 7.13 Freeze-thaw test 7.15 Weathering 7.19 Flammability	(0.01 ~ 300) mm (0.001 ~ 10) (0.1 ~ 20 000) N (0.001 ~ 10.0) % - (0.01 ~ 50) kJ/m <sup>2</sup> (0.01 ~ 50) % (0.1 ~ 5 000) N (5 ~ 160) BPN (0.01 ~ 100) % (0.1 ~ 200) % (0.1 ~ 30) cm (0.1 ~ 200) s
ASTM D5/D5M:13	Standard Test Method for Penetration of Bituminous Materials	0 ~ 400
ASTM D6/D6M:95(2011)e 1	Standard Test Method for Loss on Heating of Oil and Asphaltic Compounds	Min 0.1 %

# Korea Laboratory Accreditation Scheme

No. KT011

## 01.016 Building and Construction Materials

Test Method	Standard designation	Test range
JIS A 1439 : 2016	Testing methods of sealants for sealing and glazing in buildings 5.1 slump 5.2 elastic recovery 5.3 tensile properties 5.4 adhesive properties at maintained extension 5.6 adhesive properties at constant temperatures 5.8 adhesive properties at maintained extension after immersion in water 5.9 adhesive properties after immersion in water 5.11 weight and volume	( 0.1 ~ 50 ) mm ( 0 ~ 100 ) % ( 0.01 ~ 10 ) N/mm <sup>2</sup> - - - - ( 0.1 ~ 100 ) %
JIS K 2265-4 : 2007	Determination of flash point -- part 4: Cleveland open cup method	Min 0.5 °C
JIS R 1250 : 2011	Common brick and facing bricks 7.4 water absorption 7.5 compressive strength	Min 0.001 % Min 0.01 N/mm <sup>2</sup>
JIS R 2101 : 1983	Shape and dimension of refractory bricks 4. dimension	(0.01 ~ 300) mm
JIS R 2205 : 1992	Testing method for apparent proosity, water absorption and specific gravity of refractory bricks 5.1 apparent proosity 5.3 apparent specific gravity 5.4 volume specific gravity	Min 0.01 % Min 0.001 Min 0.001
JIS R 2206-1 : 2007	Testing method for cold compressive strength of refractory bricks — Part 1: Test without packing	Min 0.01 N/mm <sup>2</sup>
JIS R 7212 : 1995	Testing methods for carbon blocks 6.1.1 compressive strength	Min 0.01 N/mm <sup>2</sup>

# Korea Laboratory Accreditation Scheme

No. KT011

## 04. Heat and Temperature Measurement

### 04.002 Fire

Test Method	Standard designation	Test range
KS F ISO 5660-1 : 2008	Reaction-to-fire tests—Heat release, smoke production and mass loss rate—Part 1 : Heat release rate (cone calorimeter method)	(0 ~ 100) MJ/m <sup>2</sup>
KS F ISO 1182 : 2010	Method of non-combustibility test of building products	(1 ~ 1 200) sec
KS F 2271 : 2016	Testing method for gas toxicity of finish materials of buildings	(0 ~ 30) K
Molit Notice No. 2015-744	Flame spread Prevention Standard and Fire-Retardant Performance of Building Finish Materials	1.The difference between maximum furnace temperature and final equilibrium temperature (°C) : 20 °C below Mass reduction rate (%) : 30 % below 2.Average deed stopping time : More than 9 min 3.THRR (MJ/m <sup>2</sup> ) : 8 MJ/m <sup>2</sup> below, HRR time over 200 kw/m <sup>2</sup> : 10 s below