

JAPANESE INDUSTRIAL STANDARD
JIS A 6909 : 1995
Coating materials for textured finishes of buildings
May, 1998

ERRATA

Page 17

Subclause 6.3(6)

Error (6) Base plates for alkali resistance test method A, alkali resistance test method C,
weather resistance test method A, weather resistance test method B

Correct (6) Base plates for alkali resistance test method A, alkali resistance test method C,
weather resistance test method A and weather resistance test method B

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Figure 3

Error Form (40 x 40 x 1 inner dimentions)

Correct Form (40 x 40 x 5 inner dimentions)

Remarks : This errata is for correcting the first edition of this Standard.
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JIS

JAPANESE INDUSTRIAL STANDARD

**Coating materials for textured
finishes of buildings**

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JAPANESE INDUSTRIAL STANDARD

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Coating materials for textured
finishes of buildings

A 6909-1995

1. **Scope** This Japanese Industrial Standard specifies coating materials for textured finishes of buildings (hereafter, referred to as “coating materials for textured finishes”) wherein binders such as cement, synthetic resin, etc., pigment, aggregate, etc., are taken as main raw materials, and the interior and exterior walls or ceilings of buildings are mainly finished to patterns having three-dimensional shaping properties by spraying, roller coating, trowel coating, etc.

Remarks 1. The standards cited in this Standard are shown in Attached Table 1.

2. The units and numerical values given in { } in this Standard are based on the traditional units and are appended for informative reference.

2. **Definitions** For the main terms used in this Standard, the following definitions apply.

- (1) single layer A single layer is of finished with under coating materials and main materials, or only with main materials.
- (2) multi-layer A multi-layer is of finished with three layers of under coating materials, main materials, and top coating materials.
- (3) under coating materials Under coating materials are used principally for the purposes of adjusting absorption of main materials to a substrate and improving its adhesion.

Further, some under coating materials are used by mixing a base material and a hardener.

- (4) main materials Main materials are mainly used for the purpose of forming a three-dimensional or flat pattern on the finish surface.

Further, some main materials are used by mixing a base materials and a hardener, or powder and admixture liquid.

- (5) top coating materials A top coating materials are used for the purposes of coloring finish surface, glossing, improving weather resistance, preventing water absorption, etc.

Further, some top coating materials are used by mixing a base material and a hardener.

3. **Classification and designation** The classification and designation of coating materials for textured finishes shall be as given in Table 1.

Table 1. Classification and designation of coating materials for textured finishes

Type	Designation	Informative reference		
		① Use ② Layer structure ③ Coating thickness	Main finish shape	Popular name (example)
Coating material for thin textured finish	Exterior cement system coating material for thin textured finish	① Principally for exterior finish ② Single-layer ③ About 3mm max.	Sand wall state	Cement lithin*, waterproof lithin
	Exterior siliceous system coating material for thin textured finish		Sand wall state	Silica lithin
	Flexible exterior siliceous system coating material for thin textured finish		Orange peel state	
	Exterior synthetic resin emulsion system coating material for thin textured finish	① For interior finish ② Single-layer ③ About 3mm max.	Sand wall state	Resin lithin, acrylic lithin, pottery stone lithin
	Flexible exterior synthetic resin emulsion system coating material for thin textured finish		Sand wall state, orange peel state	Elastic lithin
	Waterproof exterior synthetic resin emulsion system coating material for thin textured finish		Orange peel state, ripple state, rough surface	Single-layer elasticity
	Exterior synthetic resin solution system coating material for thin textured finish		Sand wall state	Solution lithin
	Interior cement system coating material for thin textured finish		Sand wall state	Cement lithin
	Interior siliceous system coating material for thin textured finish		Sand wall state, orange peel state	Silica lithin
	Interior synthetic resin emulsion system coating material for thin textured finish		Sand wall state, orange peel state, ripple state	ZYURAKU (Japanese)
	Interior synthetic resin solution system coating material for thin textured finish		Sand wall state, orange peel state	Solution lithin
	Interior water soluble resin system coating material for thin textured finish ⁽¹⁾		KYOTO wall state, fibrous wall coating state	Fibrous wall coating, KYOTO wall coating, and ZYURAKU (Japanese)

Table 1. (continued)

Type	Designation	Informative reference		
		① Use ② Layer structure ③ Coating thickness	Main finish shape	Popular name (example)
Coating material for thick textured finish	Exterior cement system coating material for thick textured finish	① For exterior finish ② Single-layer ③ About 4 to 10mm	Stucco state	Cement stucco
	Exterior siliceous system coating material for thick textured finish			Silica stucco
	Exterior synthetic resin emulsion system coating material for thick textured finish			Resin stucco, acrylic stucco
	Interior cement system coating material for thick textured finish		Stucco state	Cement stucco
	Interior siliceous system coating material for thick textured finish			Silica stucco
	Interior synthetic resin emulsion system coating material for thick textured finish			Resin stucco, acrylic stucco
Lightweight aggregate coating material for textured finish	Spraying lightweight aggregate coating material for textured finish	① Principally for ceiling ② Single-layer ③ About 3 to 5mm	Sand wall state	Perlite spraying, vermiculite spraying
	Troweling lightweight aggregate coating material for textured finish		Flat state	

Table 1. (continued)

Type	Designation	Informative reference		
		① Use ② Layer structure ③ Coating thickness	Main finish shape	Popular name (example)
Multi-layer coating material for textured finish ⁽²⁾	Cement system multi-layer coating material for textured finish	① For interior finish and exterior finish ② Multi-layer ③ About 1 to 5mm	Rough surface, orange peel state, lunar surface state, flat state	Cement system sprayed tile
	Polymer cement system multi-layer coating material for textured finish			
	Flexible polymer cement system multi-layer coating material for textured finish			
	Waterproof polymer cement system multi-layer coating material for textured finish			
	Siliceous system multi-layer coating material for textured finish			
	Flexible silicone system multi-layer coating material for textured finish			
	Synthetic resin emulsion system multi-layer coating material for textured finish			
	Waterproof synthetic resin emulsion system multi-layer coating material for textured finish			
	Reaction hardening type synthetic resin emulsion system multi-layer coating material for textured finish			
	Waterproof reaction hardening type synthetic resin emulsion system multi-layer coating material for textured finish			
	Synthetic resin solution system multi-layer coating material for textured finish			
	Waterproof synthetic resin solution system multi-layer coating material for textured finish			

Notes (1) Some interior water soluble resin system coating materials for thin textured finish have been added characteristics such as moisture proof, alkali-resistance, and fungus resistance.

(2) Multi-layer coating materials for textured finish to which weather resistance characteristic has been added are classified into weather resistance Class 1, weather resistance Class 2, and weather resistance Class 3.

Remarks 1. The cement system means coating material for textured finish in which cement or cement and cement mixing polymer dispersion for admixing cement are mixed as binder.

2. The siliceous system means coating material for textured finish in which siliceous binder or siliceous binder and synthetic resin emulsion are mixed as binder.

3. The synthetic resin emulsion system means coating material for textured finish in which synthetic resin emulsion is used as a binder.

4. The synthetic resin solution system means coating material for textured finish in which synthetic resin solution is used as a binder.

5. The water soluble resin system means coating material for textured finish in which water soluble resin or the water soluble resin and synthetic resin emulsion are mixed as binder.

6. The polymer cement system means coating material for textured finish in which cement and polymer dispersion for admixing cement or re-emulsifying powdery resin are mixed as binder.

7. The reaction hardening synthetic resin emulsion system means coating material for textured finish in which synthetic resin emulsion to harden by reaction at the time of using the epoxy system or the like is used as binder.

* "lithin" is German.

4. Quality The quality of coating materials for textured finishes shall be as follows.

- (1) The coating materials for textured finishes shall be uniform in color tone and little in discoloration.
- (2) When subjected to the tests specified in 6., the coating material for thin textured finish shall conform to the requirements specified in Table 2, the coating material for thick textured finish shall conform to the requirements specified in Table 4, the lightweight aggregate coating material for textured finish shall conform to the requirements specified in Table 5, and further the multi-layer coating material for textured finish shall conform to the requirements specified in Table 6.
- (3) When interior thin coating material W requires moisture resistance or alkali-resistance, they shall be subjected to the test specified in 6., and shall conform to the requirements specified in Table 3.

Remarks: When interior thin coating material W requires fungus resistance, they shall be subjected to the test specified in 6., and the results shall be marked in accordance with 8.

- (4) The multi-layer coating material for textured finish of weather resistance type shall be subjected to the test specified in 6., and the results shall conform to the requirements specified in Table 7.

Table 2. Qualities of coating materials for thin textured finishes

Type	Exterior thin coating material	Flexible exterior thin coating material	Waterproof exterior thin coating material	Interior thin coating material	Type of coating material to be tested											
					Exterior thin coating material			Flexible exterior thin coating material			Water-proof exterior thin coating material			Interior thin coating material		
					C	Si	E	S	Si	E	E	C	Si	E	S	W
Low temperature stability	There shall be no lump, and no separation nor aggregation of the composition.															
Change in consistency Method A ⁽³⁾	-25 % to 25 %			—	-25 % to 25 %											
Crazing resistance due to initial drying	No crazing shall be caused															
Adhesion strength N/mm ² {kgf/cm ² }	Standard condition	0.3 {3.1} min. ⁽⁴⁾	—	—	0.2 {2.0} min.											
		0.5 {5.1} min.	0.5 {5.1} min.	0.7 {7.1} min.	0.3 {3.1} min.											
		0.5 {5.1} min.	—	—	—											
		0.3 {3.1} min.	—	—	—											
		0.3 {3.1} min.	0.3 {3.1} min.	0.5 {5.1} min.	—											
Resistance against repeated warming and cooling actions		0.5 {5.1} min.	—	—	—											
		There shall be free from peeling, crazing, blister as well as free from remarkable discoloration and lowering of luster on surface of test piece.														
Permeability	Method A (cm)	2.0 max.	2.0 max.	—	—											
		1.0 max.	1.0 max.	—	—											
Washability	Method B (ml)	—	—	0.5 max.	There shall be free from exposure of substrate due to peeling and abrasion.											
		There shall be free from exposure of substrate due to peeling and abrasion.														

Table 2. (continued)

Type	Exterior thin coating material	Flexible exterior thin coating material	Waterproof exterior thin coating material	Interior thin coating material	Type of coating material to be tested											
					Exterior thin coating material			Flexible exterior thin coating material			Water-proof exterior thin coating material	Interior thin coating material				
					C	Si	E	S	Si	E		C	Si	E	S	W
Impact resistance	There shall be free from crazing, remarkable deformation and peeling.				○	○	○	○	○	○	○	○	○	○	○	○
Alkali resistance Method A	There shall be free from cracking, blister, peeling, softening elution, and dulling and discoloration shall not be remarkable compared with unimmersed portion.	—	There shall be free from cracking, blister, peeling, softening elution, and dulling and discoloration shall not be remarkable compared with unimmersed portion.		○	○	○	○	○	○	○	○	○	○	○	○
Water retentivity (%)	—		60 min.													○
Abrasion resistance			There shall be free from exposure of substrate due to peeling and abrasion.													○
Weather resistance Method A	There shall be free from crazing and peeling, and discoloration shall be grey scale No. 3 or over.		—		○	○	○	○	○	○	○	○	○	○	○	○
Change-in-color resistance	—		There shall be free from crazing and peeling, and discoloration shall be grey scale No. 3 or over.									○	○	○	○	○
Incombustibility	—		It shall pass grade 1 in-combustibility of surface test.									○	○	○	○	○
Flexibility	—	There shall be free from crazing and peeling.	—						○	○						

Table 2. (continued)

Type	Exterior thin coating material	Flexible exterior thin coating material	Waterproof exterior thin coating material	Interior thin coating material	Type of coating material to be tested													
					Exterior thin coating material			Flexible exterior thin coating material		Water-proof exterior thin coating material	Interior thin coating material							
					C	Si	E	S	Si		E	C	Si	E	S	W		
Elongation	At 20 °C	—	120 % min.	—														
	At -10 °C		20 % min.															
	After immersion		100 % min.															
	After heating		100 % min.															
Deterioration in elongation		—	There shall be free from peeling, warping and twist, and the main material shall be free from fracture and crazing	—														

Notes (3) In thin coating material C for double layer finish, this method is applicable to both of under spraying material and top spraying material.

In thin coating material Si, it is applicable to those using hardener.

(4) When polymer dispersion for admixing cement is jointly used as the binding materials, this value shall be 0.5 N/mm² {5.1 kgf/cm²} or over.

Table 3. Qualities for moisture resistance and alkali resistance of interior thin coating material W

Type	Interior thin coating material W
Moisture resistance Method A	There shall be free from migration, crazing, blister, and wrinkle, and shall be no discoloration on coated surface.
Alkali resistance Method B	There shall be free from crazing, peeling, blister, and wrinkle, and shall be neither discolorating nor change in luster.

Table 4. Qualities of coating materials for thick textured finishes

Type	Exterior thick coating material	Interior thick coating material	Type of coating material for textured finish to be tested						
			Exterior thick coating material			Interior thick coating material			
			C	Si	E	C	Si	E	
Low temperature stability	There shall be no lump, and no separation nor aggregation of the composition.								
Change in consistency Method B ⁽⁶⁾	-15 to 15 %								
Crazing resistance due to initial drying	No crazing shall be caused.								
Adhesion strength N/mm ² (kgf/cm ²)	Standard condition	0.5 (5.1) min.							
	After immersion	0.5 (5.1) min. 0.3 (3.1) min.							
Resistance against repeated warming and cooling actions	There shall be free from peeling, crazing, blister as well as be free from remarkable discoloration and lowering of luster on surface of test piece.								
Impact resistance	There shall be free from crazing, remarkable deformation and peeling.								
Permeability Method A (cm)	2.0 max.								
	1.0 max.								
Weather resistance Method A	There shall be free from crazing and peeling, and discoloration shall be grey scale No.3 or over.								
Incombustibility	—		It shall pass grade 1 incombustibility of surface test.						

Note ⁽⁵⁾ In thick coating material Si, this method is applicable to those using the hardener.

Table 5. Qualities of lightweight aggregate coating materials for textured finishes

Type		Lightweight aggregate coating material for spraying	Lightweight coating material for troweling
Alkali resistance	Method C	There shall be free from crack, blister, and peeling.	
Moisture condensation proof	(g/cm ³)	0.25 min.	
Moisture resistance	Method B	There shall be free from crack, blister, and peeling.	
Adhesion strength	N/mm ² (kgf/cm ²)	0.1 {1.0} min., or no peeling on interface	
Bonding property of aggregate		The aggregate shall be free from peeling and scattering.	—
Imcombustibility		It shall pass grade 1 incombustibility of surface test.	
Informative reference	Sound absorption coefficient (%)	About 20	—
	Thermal conductivity (kcal/mh°C)	About 0.08	

Table 6. Qualities of multi-layer coating material for textured finishes

Type	Multi-layer coating material	Flexible multi-layer coating material	Waterproof multi-layer coating material	Type of coating material for textured finish to be tested											
				Multi-layer coating material						Flexible multi-layer coating material			Waterproof multi-layer coating material		
				C	CE	Si	E	RE	RS	CE	Si	CE	E	RE	RS
Low temperature stability	There shall be no lump, and no separation nor aggregation of the composition.			○	○	○	○	○		○	○	○	○	○	
Change in consistency Method B(6)	-15 % to 15 %			○	○	○				○	○	○			
Crazing resistance due to initial drying	No crazing shall be caused.			○	○	○	○	○	○	○	○	○	○	○	○
Adhesion strength N/mm ² (kgf/cm ²)	Standard condition	1.0 {10.2} min.	—						○						○
		0.7 { 7.1} min.	0.7 { 7.1} min.			○	○				○		○		
		0.5 { 5.1} min.	0.5 { 5.1} min.	○	○					○		○			
		0.7 { 7.1} min.	—					○	○					○	○
		0.5 { 5.1} min.	0.7 { 7.1} min.			○	○				○		○		
Resistance against repeated warming and cooling actions	After immersion	0.5 { 5.1} min.&	0.5 { 5.1} min.	○	○					○		○			
Permeability Method B (ml)	0.5 max.			○	○	○	○	○	○	○	○	○	○	○	○
Impact resistance	There shall be free from crazing, remarkable deformation and peeling.			○	○	○	○	○	○	○	○	○	○	○	○
Weather resistance Method A	There shall be free from crazing and peeling, and discoloration shall be grey scale No.3 or over.			○	○	○	○	○	○	○	○	○	○	○	○
Flexibility	—	Crazing shall not be caused.									○				