

Foreword

According to the requirements of Document JIANBIAO [2015] No. 274 issued by the Ministry of Housing and Urban-Rural Development of the People's Republic of China (MOHURD)—"Notice on Printing and Distributing 'the Development and Revision Plan of National Engineering Construction Standards in 2016'", this standard is amended from GB 50224-2010, *Code for Acceptance of Construction Quality of Anticorrosive Engineering of Buildings* by China Petroleum and Chemical Engineering Survey and Design Association, Shanghai Fuchen Chemicals Co., Ltd. and relevant parties.

In the revising process, the editorial staff conscientiously conducted extensive investigations and studies, conducted special discussions and test verifications, summarized practical experience, referred to relevant international standards and advanced foreign standards. After repeated discussion and modification, the version was reviewed and finalized.

This standard consists of 13 chapters and 6 appendixes, covering: general provisions, terms, basic requirements, project of base course treatment, anticorrosive project of resin type, anticorrosive project of water soluble silicate type, anticorrosive project of polymer cement screed, anticorrosive project of block material, anticorrosive project of sprayed polyurea, anticorrosive project of coating type, anticorrosive project of asphalt type, anticorrosive project of plastics type, acceptance of construction, etc.

The main technical contents of this revision are as follows:

1. Chapter 9 "Anticorrosive project of sprayed polyurea" is added and the arrangement order of relevant chapters is adjusted;
2. The term "vinyl ester resin screed block" and quality acceptance regulations are added;
3. The quality acceptance rules for the resin content of fiber-reinforced plastics, the compressive strength of resin concrete and resin self-leveling, the bond strength between fiber-reinforced plastics and concrete, the tensile and bending strength of resin glass flake mortar are added;
4. Modified strength performance indicators of finished polymer cement screed products;
5. The content of the isolation layer in the relevant chapters has been uniformly adjusted to the "anticorrosive project of block material", and the quality acceptance method of the anticorrosion carbon brick is added;
6. The acid resistance index and detection method of natural stone are added;
7. Inspection items and testing methods for anticorrosive project of coating type are added;
8. The quality acceptance content of polyethylene and polypropylene plastic sheets are added;
9. Inspection record forms for inspection lots, sub-item projects, and part projects in the appendix are added;
10. In the appendix, the content of "test methods and evaluation standards for corrosion resistance of materials" is added.

This standard is managed by the Ministry of Housing and Urban-Rural Development, Branch of Chemical Industry, China Association for Engineering Construction Standardization is responsible for routine management, and Shanghai Fuchen Chemicals Co., Ltd. is responsible for the explanation of

specific technical contents. If any comments or suggestions during the process of implementing this standard, please send them to Shanghai Fuchen Chemicals Co., Ltd. (Address: 2-517, No. 517, Yuanjiang Road, Minhang District, Shanghai, China; Post Code: 200241).

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1 General provisions

1.0.1 The standard is formulated with a view to unify the acceptance method of the construction quality of anticorrosion projects, strengthen technical management and control of the construction process, strengthen inspection and acceptance, ensure project quality.

1.0.2 This standard is applicable to the acceptance of construction quality of anticorrosion projects for construction, extension and renovation of buildings and structures.

1.0.3 This standard shall be used in conjunction with the current national standard GB 50300 *Unified Standard for Constructional Quality Acceptance of Building Engineering* and GB 50212 *Code for Construction of Building Anticorrosive Engineering*.

1.0.4 For acceptance of construction quality of anticorrosion engineering of buildings, in addition to the requirements stipulated in this standard, those stipulated in the current relevant standards of the nation shall be complied with.

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2 Terms

2.0.1 Inspection lot

An inspection unit that is summarized according to the same production conditions or prescribed methods and is composed of a certain number of samples.

2.0.2 Permissible deviation

In the process of detection, the deviation of the detection point within the range of the detection ratio specified in this standard is allowed on the premise of meeting the engineering safety and functional requirements.

2.0.3 Visual inspection

The process of visually judging whether the inspected object meets the technical parameters specified by the standard.

2.0.4 Random examination

In a specified inspection lot, the inspection objects of a specific item are randomly selected according to a certain percentage of inspection.

2.0.5 Vinyl ester resin screed block

A block made of materials such as corrosion-resistant vinyl ester resin, sand, powder, and additives according to a certain mixing ratio, after mixing, molding, heating and curing, and according to certain specifications.

3 Basic requirements

3.1 Division for acceptance of construction quality

3.1.1 The acceptance of construction quality of anticorrosion projects shall be divided into inspection lots, sub-item projects and part projects.

3.1.2 Inspection lot shall be divided, according to the requirements of quality control and professional acceptance, into floor, construction section, deformation joints, construction sequence, engineering quantity, etc.

3.1.3 Sub-item projects shall be classified according to the type of anticorrosion material and construction technology.

3.1.4 Part projects shall be divided according to the unit project of buildings or structures that have independent construction conditions and can form independent use functions.

3.1.5 Before construction, the construction organization shall formulate the division plan for the construction anticorrosion engineering sub-item projects and inspection lots, and shall submit it to the supervision organization or development organization for review. Where there are sub-item projects not covered by this standard, the development organization may organize design, supervision, construction and other organizations to negotiate and determine.

3.2 Acceptance of construction quality

3.2.1 The quality acceptance of the inspection lots shall be in accordance with the following requirements:

1 The dominant items shall meet the relevant requirements of this standard.

2 The quality of general items shall be qualified after random examination. Where there are items with permissible deviation requirements, the number of sampling points and measured values of each item shall meet the relevant requirements of this standard.

3 Construction operation basis shall be complete, and the quality assurance data shall be complete.

3.2.2 The quality acceptance of sub-item projects shall be in accordance with the following requirements:

1 The quality of the inspection lots contained in the sub-item project shall be accepted as qualified.

2 The quality assurance data of the inspection lots contained in the sub-item project shall be complete.

3.2.3 The quality acceptance of part projects shall be in accordance with the following requirements:

1 The quality of the sub-item projects contained in the part project shall be accepted as qualified.

2 The quality assurance data of the sub-item projects contained in the part project shall be complete.

3.2.4 The concealed project shall be notified by the construction organization to the relevant organization for acceptance prior to concealment, and an acceptance document shall be formed, and

construction may be continued only after passing the acceptance.

3.2.5 Where the acceptance items in a project exceed the requirements of this standard, the construction organization shall organize supervision, design, construction and other relevant organizations to formulate special acceptance requirements.

3.2.6 The test blocks, test pieces and materials that affect the structural safety and main use functions shall be witnessed and sampled on site according to the relevant provisions of the current national standard GB 50300 *Unified Standard for Constructional Quality Acceptance of Building Engineering*. The test report shall be issued by a qualified quality inspection department.

3.2.7 The quality acceptance records of building anticorrosion projects shall be in accordance with the following requirements:

1 Inspection records of construction site quality management and quality acceptance records of inspection lots, sub-item projects and part projects, and quality assurance data verification records of construction site quality management shall meet the requirements of Appendix A to Appendix E of this standard.

2 For construction projects that implement the general contracting system, the format of form for quality inspection records for concealed works, inspection lots, subitem projects and part projects used in the construction anticorrosion parts of construction, and the format of form for quality management inspection records and quality assurance data verification records at the construction site shall be negotiated and determined by supervision, general contracting, construction and other organizations arranged by the development organization.

3.2.8 Where the construction quality of building anticorrosion projects does not meet the relevant requirements of this standard, it shall comply with the relevant provisions of the current national standard GB 50300 *Unified Standard for Constructional Quality Acceptance of Building Engineering*.

3.3 Procedure and organization for acceptance of construction quality

3.3.1 After the construction unit has passed the inspection by itself, the quality acceptance of the building anticorrosion project shall be submitted to the supervision organization or development organization for inspection lots, sub-item projects and part projects in turn. If the supervision organization or construction organization passes the acceptance check, it shall sign and confirm. For unqualified projects, the construction organization shall be required to reapply for inspection after passing the self-inspection.

3.3.2 The quality acceptance of the inspection lot shall be inspected and accepted by the construction organization project professional quality inspector and supervisor organized by the professional supervision engineer or the project technical leader of the development organization.

3.3.3 The sub-item projects shall be inspected and accepted by the construction organization project professional technical leader organized by a professional supervision engineer or the development organization project professional technical leader.

3.3.4 The acceptance of the quality of the part projects shall be checked by the construction organization project manager, QC manager and engineering manager organized by the chief supervision engineer or the development organization project leader.

3.3.5 After the completion of the subcontracting project of the building anticorrosion project, the subcontracting organization shall conduct a self-inspection of the contracted project and shall perform

acceptance in accordance with the procedures specified in this standard. During the acceptance, the general contracting organization shall participate. The subcontracting organization shall complete the quality acceptance records and quality control data of the subcontracted project and transfer it to the general contracting organization. The general contracting organization then applies for acceptance of the engineering projects contracted by the subcontracting organization in turn to the supervision organization or construction organization.

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4 Project of base course treatment

4.1 General requirements

4.1.1 This chapter applies to the quality acceptance of concrete base course, base course of steel structure and wooden base course.

4.1.2 The number of sampling inspections for base course treatment shall be in accordance with the following requirements:

1 Where the concrete base course is a horizontal plane, the base course treatment area is less than or equal to 100m^2 , 3 places shall be spot checked; where the base course treatment area is larger than 100m^2 , one more spot check shall be made for every 50m^2 increase, and if it is less than 50m^2 , it shall be counted as 50m^2 . There shall not be less than 3 points for each place. Where the concrete base course is a vertical plane, the base course treatment area is less than or equal to 50m^2 , 3 places shall be spot checked; where the base course treatment area is larger than 50m^2 , one more spot check shall be made for every 30m^2 increase, and if it is less than 30m^2 , it shall be counted as 30m^2 . There shall not be less than 3 points for each place.

2 Where the weight of the steel treated at base course of steel structure is less than or equal to $2t$, 4 places shall be spot checked; where the weight of the treated steel at the base course is larger than $2t$, for each additional $1t$, 2 more places shall be spot checked, and if it is less than $1t$, it shall be counted as $1t$. There shall not be less than 3 points for each place; where the structure of the steel structure is complicated and the weight calculation is difficult, 10% of the components may be spot checked according to the number of components, and it shall be not less than 3 components, and 3 points shall be spot checked for each component. For important components and difficult-to-maintain components, a spot check of 50% of the components shall be made, and measuring points shall not be less than 5 for each component.

3 The base course of wooden structures shall be spot checked by 10% according to the number of components, and shall not be less than 3, and each component shall be spot checked at 3 points. For important components and difficult-to-maintain components, a spot check of 50% shall be made, and measuring point for each component shall not be less than 5.

4 The base course treatment of the equipment foundation, trench, slot and other node parts shall be checked for double of the number.

4.2 Base course of concrete

I Dominant item

4.2.1 The strength of the base course shall meet the design requirements.

Inspection method: check the concrete strength test report, and test with instruments on site.

4.2.2 The surface of the concrete base course shall be dense and flat, and shall not have groundwater leakage, uneven subsidence, sand streaks, delamination, cracks and honeycomb pitted surface.

Inspection method: visual inspection or percussion inspection.

4.2.3 The moisture content of the base course shall not be larger than 6% in a thickness layer with a

depth of 20mm.

Inspection method: adopting onsite instrument measurement, onsite sampling and weighing method, plastic film covering method or checking the water content test report of the base course.

II General item

4.2.4 The cleanliness of the base course shall meet the design requirements, and the surface shall be free of deposits, pollutants, cement slag and slurry layer and other attachments and dust.

Inspection method: visual inspection.

4.2.5 Where using fine stone concrete for leveling, its strength grade shall be larger than or equal to C30, and its thickness shall be larger than or equal to 30mm; when using polymer cement screed for leveling, its strength grade shall be larger than 20MPa, and its thickness shall meet the design requirements. Where there is no design requirement, the thickness of each leveling shall be less than or equal to 10mm.

Inspection method: check the strength test report and ruler check.

4.2.6 Where the block anticorrosion construction is performed on the surface of the base layer, the inner and outer angles of the base course shall be made right angles; where other types of anticorrosion construction are performed, the inner and outer angles of the base course shall be made rounded or 45° inclined.

Inspection method: visual inspection.

4.2.7 The quality of the cement screed of the masonry structure plastering layer shall meet the design requirements, and the surface shall be flat and free from sand streaks, delamination, cracks and honeycomb pitted surface.

Inspection method: visual inspection or percussion inspection.

4.2.8 The embedded parts and reserved holes passing through the anticorrosion layer shall meet the design requirements.

Inspection method: visual inspection.

4.2.9 The roughness of the surface of the base course shall meet the design requirements. Where there is no design requirement, it shall meet the relevant requirements of the current national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering*. The treated surface of the base course shall be a uniform rough surface.

Inspection method: onsite instrument detection.

4.2.10 The slope of the base course shall meet the design requirements. The allowable deviation shall be $\pm 0.2\%$ of the slope length, and the maximum deviation shall be less than 30mm.

Inspection method: observation, instrument inspection or water splash test inspection.

4.2.11 The flatness of the base course shall be in accordance with the following requirements:

1 Where the thickness of the anticorrosion layer is 5mm or more, the allowable deviation should be 4mm.

2 Where the thickness of the anticorrosion layer is less than 5mm, the allowable deviation should be 2mm.

Inspection method: 2m ruler and wedge ruler inspection or instrument inspection.

4.3 Base course of steel structure

I Dominant item

4.3.1 The original corrosion level of the steel surface shall meet the design requirements, and the

quality of the steel structure surface by blast-cleaning shall be in accordance with the following requirements:

1 Sa1 grade: the surface of the steel shall be free of visible grease and dirt, and free of loose oxide scale, rust and paint coatings.

2 Sa2 grade: the surface of the steel shall be free of visible grease and dirt, and oxide scale, rust and paint coatings shall be basically removed, and the residue shall be firm.

3 Sa2 1/2 grade: there shall be no visible grease, dirt, oxide scale, rust and paint coating on the surface of the steel, and any remaining traces shall only be slight spots or stripes.

Inspection method: observe and compare the standard photos of each grade.

4.3.2 The quality of rust removal on the surface of steel structures by hand and power tools shall be in accordance with the following requirements:

1 St2 grade: the surface of the steel shall be free of visible grease and dirt, and free of loose oxide scale, rust and paint coatings.

2 St3 grade: the surface of the steel shall be free of visible grease and dirt, and free of loose oxide scale, rust and paint coatings. The rust removal level shall be more thorough than St2, and the surface of the exposed part of the substrate shall have a metallic body gloss.

Inspection method: observe and compare the standard photos of each grade.

II General item

4.3.3 The surface of the steel structure shall be clean and free of welding quality defects such as weld beading, burrs, cracks, perforations and undercuts.

Inspection method: observation or comparison with the standard block sample method. The surface cleanliness may be evaluated by the pressure-sensitive adhesive tape method.

4.3.4 The roughness level of the surface of the steel structure shall meet the design requirements. Where there is no design requirement, it shall meet the relevant requirements of the current national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering*.

Inspection method: use instrument detection, standard sample visual inspection.

4.3.5 The coating time of the primer on the surface of the steel structure that has been derusted shall not exceed 5 hours where the relative humidity is less than 85%.

Inspection method: check construction records.

4.4 Base course of wood

I Dominant item

4.4.1 The moisture content of wood shall not be larger than 15%.

Inspection method: check the construction records and the test report of wood moisture content.

II General item

4.4.2 The surface of the wooden base course shall be flat and free of oil, dust and resin.

Inspection method: visual inspection.

5 Anticorrosive project of resin type

5.1 General requirements

5.1.1 The acceptance of construction quality of epoxy resin, vinyl ester resin, unsaturated polyester resin, furan resin and phenolic resin anticorrosion project shall include the following content:

- 1** Integral surface course of fiber reinforced plastic lined with resin binder.
- 2** Integral surface course made of resin thin mortar, screed, fine stone concrete, self-leveling and glass flake mortar.

5.1.2 The number of sampling inspections for anticorrosive project of resin type shall meet the requirements of Article 4.1.2 of this standard.

5.1.3 The sampling quantity and quality determination of the main raw materials of resin shall meet the following requirements:

1 From each batch of barreled resin, 3 barrels shall be sampled randomly, and the sample shall be no less than 200g for each barrel and shall be tested after mixing; where the batch number is less than or equal to 3 barrels, 1 barrel may be randomly sampled. Sampling shall be no less than 500g.

2 3 bags of Powder or aggregate shall be randomly sampled from each batch of different particle sizes, each bag shall be no less than 1 000g, and they shall be mixed and tested; where the number of bags in this batch is less than or equal to 3 bags, 1 bag may be randomly sampled. Sampling is not less than 3 000g.

3 3 rolls of Fiber reinforced materials shall be randomly sampled from each batch, each sample shall be no less than 1.0m²; where the number of rolls in this batch is less than or equal to 3 rolls, a sample may be randomly sampled. Sampling is no less than 3.0m².

4 Where one of the sampling inspection results is unsatisfactory, the number of sampling inspection shall be doubled. Where there is still an unqualified indicator, the quality of the product shall be judged as unqualified.

5.1.4 The sampling quantity and quality determination of finished resin products shall be in accordance with the following requirements:

1 Where testing is required before construction, the sampling quantity of resin, powder, aggregate, and fiber reinforced materials shall comply with the provisions of Article 5.1.3 of this standard, and samples shall be prepared according to the determined construction mix ratio and tested after curing.

2 Where it is necessary to test the prepared materials, three batches of ingredients shall be randomly sampled. Each batch shall have at least three samples of the same kind, and the samples shall be prepared before the resin gel and tested after curing.

3 Where one of the sampling inspection results is unqualified, the sampling repeat test quantity shall be doubled. Where there is still an unqualified indicator, the quality of the product shall be judged as unqualified.

5.1.5 The test method and assessment of the corrosion resistance of resin materials shall comply with Appendix F.1 of this standard.

I Dominant item

5.1.6 Quality of raw materials such as epoxy resins, vinyl ester resins, unsaturated polyester resins, furan resins, phenolic resins, self-leveling resins, glass flake mortars, fiber reinforced materials, powders and coarse and fine aggregates used in anticorrosive project of resin type shall meet the design requirements or the relevant national standards.

Inspection method: check the product factory certificate, material test report, or repeat test report of onsite sampling.

5.1.7 The quality of finished products made of resin materials shall be in accordance with those specified in Table 5.1.7.

Table 5.1.7 Quality of finished products made of resin materials

Item	Epoxy resin	Vinyl ester resin	Unsaturated polyester resin				Furan resin	Phenolic resin	
			Bisphenol A type	Xylene type	Isophthalic type	Orthophthalic type			
Compressive strength (MPa)	Mortar	≥80.0	≥80.0	≥70.0	≥80.0	≥80.0	≥80.0	≥70.0	≥70.0
	Screed	≥70.0	≥70.0	≥70.0	≥70.0	≥70.0	≥70.0	≥60.0	-
	Fine stone concrete	≥60.0	≥70.0	≥70.0	≥70.0	≥70.0	≥70.0	≥60.0	-
	Self-leveling	≥70.0	≥70.0	-	-	-	-	-	-
Tensile strength (MPa)	Mortar	≥9.0	≥9.0	≥9.0	≥9.0	≥9.0	≥9.0	≥6.0	≥6.0
	Screed	≥7.0	≥7.0	≥7.0	≥7.0	≥7.0	≥7.0	≥6.0	-
	Fiber reinforced plastic (glass fiber cloth)	≥100.0	≥100.0	≥100.0	≥100.0	≥90.0	≥90.0	≥80.0	≥60.0
Bonding strength (MPa)	Mortar and acid-resistant brick (cross method)	≥3.0	≥2.5	≥2.5	≥3.0	≥1.5	≥1.5	≥2.5	≥1.0
	Fiber reinforced plastic (primer) and C30 concrete (pull-off test)	≥1.5	≥1.4	≥1.4	≥1.2	≥1.2	≥1.2	≥1.5 (Epoxy primer)	≥1.5 (Epoxy primer)
	Fiber reinforced plastic (primer) and polymer cement screed (pull-off test)	≥2.5	≥2.0	≥1.7	≥1.7	≥1.6	≥1.6	≥2.5 (Epoxy primer)	≥2.5 (Epoxy primer)
Glass fiber reinforced plastic resin content (%)	Cloth	≥45.0							
	Chopped mat	≥65.0							
	Surface mat	≥90.0							

Note: Where fiber reinforced plastic is used in non-stressed structures such as isolation layers, the tensile strength value may not be required.

Inspection method: check the inspection report or repeat test report of spot sampling.

5.1.8 The quality of finished products of glass flake mortar shall be in accordance with those specified in Table 5.1.8.

Table 5.1.8 Quality of finished products of glass flake mortar

Item/type		Vinyl ester resin	Epoxy resin	Unsaturated polyester resin
Tensile strength (MPa)		≥25.0	≥25.0	≥23.0
Bending strength (MPa)		≥35.0	≥30.0	≥32.0
Abrasion resistance (1 000g,500r;g)		≤0.05	≤0.05	≤0.05
Bonding strength (MPa)	With cement base course (cross method)	≥1.5	≥2.0	≥1.5
	Primer and C30 concrete (pulling open method)	≥1.3	≥1.5	≥1.2
Impermeability (MPa)		≥1.5	≥1.5	≥1.5

Inspection method: check the inspection report or repeat test report of spot sampling.

5.1.9 For fiber-reinforced plastic surface course, resin thin mortar, screed, fine stone concrete, self-leveling and glass flake mortar shall be tightly combined and firmly bonded with corners, floor drains, doorways, reserved holes and pipeline entrances and exits and. The joints shall be flat, and there shall be no leakage or hollowing.

Inspection method: visual inspection, percussion inspection and check concealed engineering records.

II General item

5.1.10 The compounding ratio of resin binder for lining fiber reinforced plastic, resin thin mortar, screed, fine stone concrete, self-leveling and glass flake mortar for integral surface course shall be determined by field tests.

Inspection method: check the test report.

5.1.11 After the construction of resin anticorrosive project is completed, the curing time at room temperature shall be in accordance with those specified in Table 5.1.11.

Table 5.1.11 Curing time of resin anticorrosion engineering at room temperature (d)

Resin name	Surface type		
	Mortar, screed, fine stone concrete	Fiber reinforced plastic	Self-levelling, glass flake screed
Epoxy resin	≥10	≥15	≥10
Vinyl ester resin	≥10	≥15	≥10
Unsaturated polyester resin	≥10	≥15	≥10
Furan resin	≥15	≥15	-
Phenolic resin	≥20	≥20	-

Inspection method: check construction records.

5.2 Surface course of glass fiber reinforced plastics

I Dominant item

5.2.1 Where the fiber reinforced plastic surface course is reinforced with glass fiber, the resin content shall be in accordance with the following requirements:

- 1 The resin content of glass fiber cloth shall not be less than 45%.
- 2 The resin content of glass fiber chopped mat shall not be less than 65%.
- 3 The resin content of the glass fiber surface mat shall not be less than 90%.

Inspection method: it shall comply with the current national standard GB/T 2577 *Test Method for Resin Content of Glass Fiber Reinforced Plastics*.

5.2.2 When performing a holiday test on a steel base course, or a fiber reinforced plastic surface course of a concrete pool, tank, or concrete member with a conductive primer coating, the test voltage passed shall be 3 000V/mm.

Inspection method: check with electric spark detector.

5.2.3 The fiber reinforced plastic surface course resin shall be completely cured, and the Bacol hardness value shall not be lower than 90% of the design value, and there shall be no peeling or delamination.

Inspection method: the degree of surface degree of cure may be checked with a white cotton ball dipped in acetone; Bacol hardness testing shall comply with the current national standard GB/T 3854 *Test Method for Hardness of Reinforced Plastics by Means of a Barcol Impresser*; peeling and delamination may be checked by observation and percussion method.

II General item

5.2.4 The thickness of the fiber reinforced plastic surface course, the specifications and number of layers of the fiber reinforced material used shall meet the design requirements. The number of measuring points whose thickness is less than the thickness specified in the design shall not be larger than 10%, and the actual thickness measured at the measuring point shall not be less than 90% of the thickness specified in the design.

Inspection method: check construction records and instrument thickness measurement. The thickness of the fiber reinforced plastic surface course on the steel base course shall be measured by a magnetic thickness gauge. The thickness of the fiber reinforced plastic layer on the base course of concrete or cement screed may be measured with an ultrasonic thickness gauge.

5.2.5 The surface resin binder of the fiber reinforced plastic surface course shall be full and smooth, and there shall be no air bubbles, wrinkles and exposed fibers.

Inspection method: visual inspection or check concealed engineering records.

5.2.6 The overlap width of the same layer of fiber reinforced material shall not be less than 50mm, and the seam of the two layers of fiber reinforced material shall be staggered, and the staggered distance shall not be less than 50mm.

Inspection method: visual inspection and ruler inspection.

5.2.7 The inspection of the floor, ground slope and surface flatness of the fiber reinforced plastic surface course shall meet the requirements of Articles 4.2.10 and 4.2.11 of this standard.

5.3 Integral surface course of resin thin mortar, resin screed, resin concrete, self-leveling resin and glass flake resin mortar

I Dominant item

5.3.1 The surface of the integral surface course of resin thin mortar, screed, fine stone concrete, self-leveling and glass flake mortar shall be completely cured. The surface course and the base course shall be firmly bonded, and there shall be no peeling, delamination, bubbles and cracks.

Inspection method: the resin curing degree shall be checked by wiping with a white cotton ball dipped in acetone. Other items are inspected using observation and percussion methods.

II General items

5.3.2 The number of measuring points for surface course of the resin thin mortar, screed, fine stone concrete, self-leveling, and glass flake mortar whose thickness is less than the thickness specified in the design shall not be larger than 10%. The thickness of the measuring point shall not be less than 90% of the thickness specified in the design.

Inspection method: check construction records and thickness measurement samples. The thickness of the steel base course shall be measured by a magnetic thickness gauge. The thickness of concrete or cement screed base course may be measured by ultrasonic thickness gauge.

5.3.3 The integral surface course of resin thin mortar, screed, fine stone concrete, self-leveling and glass flake mortar shall be flat, uniform in color and without cracks.

Inspection method: visual inspection.

5.3.4 The inspection of the floor, ground slope and surface flatness of resin thin mortar, screed, fine stone concrete, self-leveling and glass flake mortar shall meet the requirements of Articles 4.2.10 and 4.2.11 of this standard.

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6 Anticorrosive project of water soluble silicate type

6.1 General requirements

6.1.1 The acceptance of construction quality of anticorrosive project of water soluble silicate type shall include the following content:

- 1 Integral surface course of potassium silicate screed.
- 2 Integral surface course, equipment foundation and structure of water soluble silicate concrete pouring.

6.1.2 The quantity of sampling inspections for anticorrosive project of water soluble silicate type shall meet the relevant requirements of Article 4.1.2 of this standard.

6.1.3 The sampling quantity and quality determination of the main raw materials of water soluble silicate shall be in accordance with the following requirements:

1 Randomly sample three barrels of water soluble silicate from each batch of barrels. The sampling volume of each barrel shall not be less than 1 000g, which may be tested after mixing. Where the batch has less than or equal to 3 barrels, 1 barrel may be randomly sampled, and the sampling shall not be less than 3 000g.

2 3 bags of powder or aggregate shall be randomly sampled from each batch of different size specifications, sampling of each bag shall not be less than 1 000g, may be tested after mixing; where the batch number is less than or equal to 3 bags, 1 bag may be randomly sampled, and sampling shall not be less than 3 000g.

3 Where one of the sampling inspection results is unqualified, the sampling repeat test quantity shall be doubled. Where there is still an unqualified indicator, the quality of the product shall be judged as unqualified.

6.1.4 The sampling quantity and quality determination of finished products of water soluble silicate shall be in accordance with the following requirements:

1 Where testing is required before construction, the sampling quantity of water soluble silicate, powder or aggregate shall comply with Article 6.1.3 of this standard, and samples shall be prepared according to the determined construction mix ratio and tested after curing.

2 Where it is necessary to test the prepared materials, three batches of ingredients shall be randomly sampled, at least three samples of the same type in each batch shall be prepared before the initial setting of water soluble silicate, and then tested after curing.

3 Where one of the sampling inspection results is unqualified, the sampling repeat test quantity shall be doubled. Where there is still an unqualified indicator, the quality of the product shall be judged as unqualified.

6.1.5 The test method and assessment of the corrosion resistance of water soluble silicate materials shall comply with Section F.2 of this standard.

I Dominant item

6.1.6 The quality of raw materials such as sodium silicate, potassium silicate, sodium fluorosilicate, condensed aluminum phosphate, powder and coarse and fine aggregate used in anticorrosive project of

water soluble silicate type shall meet the design requirements or the provisions of relevant national standards.

Inspection method: check the product certificate, material test report, or repeat test report of onsite sampling.

6.1.7 The quality of finished products of water soluble silicate shall be in accordance the following requirements:

1 The quality of finished sodium silicate products shall be in accordance with those specified in Table 6.1.7-1.

Table 6.1.7-1 Quality of finished sodium silicate products

Item	Dense type			Ordinary type		
	Mortar	Screed	Concrete	Mortar	Screed	Concrete
Initial setting time (min)	≥45	≥45	≥45	≥45	≥45	≥45
Final setting time (h)	≤12	≤12	≤12	≤12	≤12	≤12
Compressive strength (MPa)	-	≥20.0	≥25.0	-	≥15.0	≥20.0
Tensile strength (MPa)	≥3.0	-	-	≥2.5	-	-
Bonding strength with acid-resistant brick (MPa)	≥1.2	-	-	≥1.0	-	-
Impermeability grade (MPa)	≥1.2	≥1.2	≥1.2	-	-	-
Water absorption (%)	-	-	-	≤15.0	≤15.0	≤15.0
Acid pickling stability	Qualified					

2 The quality of finished potassium silicate products shall be in accordance with those specified in Table 6.1.7-2.

Table 6.1.7-2 Quality of finished potassium silicate products

Item	Dense type			Ordinary type		
	Mortar	Screed	Concrete	Mortar	Screed	Concrete
Initial setting time (min)	≥45	-	-	≥45	-	-
Final setting time (min)	≤15	-	-	≤15	-	-
Compressive strength (MPa)	-	≥25.0	≥25.0	-	≥20.0	≥20.0
Tensile strength (MPa)	≥3.0	≥3.0	-	≥2.5	≥2.5	-
Bonding strength with acid-resistant brick (MPa)	≥1.2	≥1.2	-	≥1.2	≥1.2	-
Impermeability grade (MPa)	≥1.2	≥1.2	≥1.2	-	-	-
Water absorption (%)	-			≤10.0		-
Acid pickling stability	Qualified			Qualified		
Heat resistance extreme temperature (°C)	100-300	-		Qualified		
	301-900	-		Qualified		

Notes: 1 The tensile strength and bonding strength in the table are only used for potassium silicate screed with a maximum particle size of 1.18mm.

2 The heat resistance extreme temperature in the table is only used for anticorrosion projects with heat resistance requirements.

Inspection method: check the inspection report or repeat test report of spot sampling.

6.1.8 After curing the anticorrosion project of water soluble silicate materials, sulfuric acid with a concentration of 30% to 40% shall be used as the surface acidification treatment, until there is no white crystal precipitation. The number of acidification treatments should not be less than 4 times. Each time interval: for the sodium silicate material shall not be less than 8h; for the potassium silicate material shall not be less than 4h. The white precipitates on the surface shall be removed before each treatment.

Inspection method: check test report and construction record.

II General item

6.1.9 The construction mix ratio of water soluble silicate materials shall be determined after field tests.

Inspection method: check the test report.

6.1.10 The curing period of water soluble silicate materials shall be in accordance with those specified in Table 6.1.10.

Table 6.1.10 The curing period of water soluble silicate materials

Material name		Temperature(°C)			
		10-15	16-20	21-30	31-35
Sodium silicate material		≥12d	≥9d	≥6d	≥3d
Potassium silicate material	Ordinary type	-	≥14d	≥8d	≥4d
	Dense type	-	≥28d	≥15d	≥8d

Inspection method: check construction records.

6.2 Integral surface course of potassium silicate screed

I Dominant item

6.2.1 The integral surface course of potassium silicate screed and the base course shall be firmly bonded, and shall be free from peeling, delamination, cracks, water soluble silicate deposition and penetrating air bubbles.

Inspection method: visual inspection, percussion inspection or destructive inspection.

II General item

6.2.2 The thickness of the integral surface course of potassium silicate screed shall meet the design requirements. The number of measurement points smaller than the thickness specified in the design shall not be larger than 10%, and the thickness of the measurement points shall not be less than 90% of the thickness specified in the design.

Inspection method: check construction records and thickness measurement samples. The thickness of the carbon steel base course shall be measured by a magnetic thickness gauge. For the thickness on the concrete base course, a magnetic thickness gauge is used to detect the thickness measurement sample made on the carbon steel base course.

6.2.3 The surface of the integral surface course of potassium silicate screed shall be flat, uniform in color, and shall be free of cracks or pinholes.

Inspection method: visual inspection.

6.2.4 The inspection of the surface slope and flatness of the integral surface course of potassium silicate screed shall meet the requirements of Articles 4.2.10 and 4.2.11 of this standard.

6.3 Water soluble silicate concrete

I Dominant item

6.3.1 The embedded metal parts in the sodium silicate concrete shall be derusted and shall be coated with anticorrosion coating.

Inspection method: check construction records.

II General item

6.3.2 The water soluble silicate concrete pouring integral surface course, the surface of the equipment foundation and the structure shall be flat, dense, and there shall be no obvious honeycomb, pitted surface and cracks, the position of the embedded parts shall be correct.

Inspection method: visual inspection, inspection with 5-10 times magnifying glass and check with ruler.

6.3.3 The thickness of the integral surface course of water soluble silicate concrete shall meet the design requirements. The number of measurement points smaller than the thickness specified in the design shall not be larger than 10%, and the thickness of the measurement points shall not be less than 90% of the thickness specified in the design.

Inspection method: check construction records and thickness measurement samples. The thickness of the steel base course shall be measured by a magnetic thickness gauge. For the thickness of the concrete base course, a magnetic thickness gauge is used to detect the thickness measurement sample made on the steel base course.

6.3.4 The location of the construction joints support for the integral surface course of the water soluble silicate concrete pouring shall be correct, and the overlap shall be tight.

Inspection method: observe and inspect construction records.

6.3.5 The inspection of the surface slope and flatness of the integral surface course poured by water soluble silicate concrete shall meet the requirements of Articles 4.2.10 and 4.2.11 of this standard.

7 Anticorrosive project of polymer cement screed

7.1 General requirements

7.1.1 The acceptance of construction quality of anticorrosive project of polymer cement screed shall include the following contents:

- 1 Integral surface course of polymer cement screed.
- 2 Levelling layer of polymer cement screed and mortar.
- 3 Plastering layer of polymer cement paste.

7.1.2 The number of sampling inspections of base course treatment and anticorrosive project of polymer cement screed surface course shall comply with the provisions of Article 4.1.2 of this standard. Where the concrete base course is the inner surface of the top, the number of sampling inspections of the surface course shall be in accordance with the following requirements:

1 Where the area of the base course is less than or equal to 100m^2 , and the surface area of the beam accounts for less than or equal to 50% of the treated area of the base course, 3 spots shall be spot checked. Where the surface area of the beam accounts for more than 50% of the treated area of the base course, 5 spots shall be spot checked.

2 Where the area of the base course is larger than 100m^2 , one additional point shall be checked for each additional 20m^2 ; if it is less than 20m^2 , it shall be counted as 20m^2 , and each measurement spot shall not be less than 3 points.

7.1.3 The sampling quantity and quality determination of the main raw materials and finished products of polymer cement screed shall meet the requirements of Articles 6.1.3 and 6.1.4 of this standard.

7.1.4 The test method and assessment of the corrosion resistance of polymer cement screed materials shall comply with Section F.3 of this standard.

I Dominant item

7.1.5 The quality of raw materials such as cationic neoprene latex, polyacrylate emulsion, epoxy resin emulsion, cement and fine aggregate used in polymer cement screed anticorrosion projects shall meet the design requirements or the relevant current national standards.

Inspection method: check the product's factory qualification, material test report or repeat test report of onsite sampling.

7.1.6 The initial setting and final setting time of the polymer cement screed prepared on site and the quality of finished products shall be in accordance with those specified in Table 7.1.6.

Table 7.1.6 Quality of finished products of polymer cement screed

Item	Neoprene latex cement screed	Polyacrylate emulsion cement screed	Epoxy resin emulsion cement screed
Compressive strength (MPa)	≥ 30.0	≥ 30.0	≥ 30.0
Flexural strength (MPa)	≥ 4.5	≥ 4.5	≥ 4.5
Bonding strength with cement screed (MPa)	≥ 1.2	≥ 1.2	≥ 1.8

Table 7.1.6(continued)

Item	Neoprene latex cement screed	Polyacrylate emulsion cement screed	Epoxy resin emulsion cement screed
Impermeability grade (MPa)	≥1.5	≥1.5	≥1.5
Water absorption (%)	≤4.0	≤5.5	≤4.0
Initial setting time (min)	>45		
Final setting time (min)	<720		

Inspection method: for the initial setting and final setting time, the onsite test report shall be checked, and the quality of finished products shall be checked on test report or onsite sampling retest report.

II General item

7.1.7 The mix ratio of polymer cement screed shall be determined through field test.

Inspection method: check the test report.

7.1.8 When it is dry to touch, curing through mist spraying or covered with plastic film, sacks, etc. shall be carried out. It shall be wet curing for 7 days, then nature curing for 21 days, and then used.

Inspection method: check construction records and concealed engineering records.

7.2 Polymer cement screed integral surface layer, leveling layer, cement paste surface layer

I Dominant item

7.2.1 The integral surface course of polymer cement screed and the base course shall be firmly bonded, and there shall be no delamination or hollowing.

Inspection method: visual inspection and percussion inspection.

7.2.2 The surface of the integral surface course of the polymer cement screed shall be flat and free from obvious cracks, peeling, sand streaks and pitting.

Inspection method: observation and inspection with 5 times-10 times magnifying glass.

7.2.3 For the integral surface course coated by polymer cement screed, its surface course and corners, floor drains, door openings, reserved holes, pipeline entrances and exits shall be tightly combined, firmly bonded, the joints shall be flat, and there shall be no leakage, hollowing and other phenomena.

Inspection method: visual inspection, percussion inspection and inspection of concealed engineering records.

7.2.4 The thickness of the surface course of polymer cement screed shall meet the design requirements. The number of measurement points smaller than the thickness specified in the design shall not be larger than 10%, and the thickness of the measurement points shall not be less than 90% of the thickness specified in the design.

Inspection method: use thickness gauge or 150mm steel ruler for inspection.

II General item

7.2.5 The allowable deviation of the surface flatness of the integral surface course shall not be larger than 4mm.

Inspection method: check with 2m ruler and wedge ruler.

7.2.6 The inspection of integral surface course slope coated by polymer cement screed shall meet the requirements of Article 4.2.10 of this standard.

7.2.7 The leveling layer of polymer cement screed and mortar shall be flat and rough, the bonding with the base course shall be firm, and there shall be no hollowing, cracking and sand streaks. The slope shall meet the design requirements.

Inspection method: visual inspection, percussion inspection and check concealed engineering records.

7.2.8 The surface course of polymer cement paste shall be applied flat and evenly and without omission, air bubbles, sagging and cracking.

Inspection method: visual inspection, percussion inspection.

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8 Anticorrosive project of block material

8.1 General requirements

8.1.1 This chapter applies to the inspection and acceptance of the construction quality of isolation layer, bonding layer and block masonry layer in anticorrosion project of acid-resistant bricks, acid-resistant and heat-resistant bricks, anticorrosion carbon bricks, vinyl ester resin screed blocks and natural stone.

8.1.2 The number of sampling inspections of anticorrosive project of block material shall meet the requirements of Article 4.1.2 of this standard.

8.1.3 The quantity and quality determination of the sampling inspection of the isolation layer material, specifications and performance shall be in accordance with the following requirements:

1 Sampling and quality determination of raw materials used for resin coating, fiber reinforced plastics isolation layers and resin bonding layers shall meet the requirements of Article 5.1.3 of this standard.

2 Sampling and quality determination of polyurethane waterproof coating shall comply with the current national standard GB/T 19250 *Polyurethane Waterproofing Coating*.

3 Sampling and quality determination of high polymer modified asphalt coil shall comply with the current national standard GB 18243 *Atactic Polypropylene (APP) Modified Bituminous Sheet Materials*.

4 Sampling and quality determination of polymer coil shall comply with the current national standard GB 18173.1 *Polymer Water-Proof Materials—Part 1: Water-Proof Sheet*.

8.1.4 Quantity and quality determination of the sampling inspection of the bonding layer material, specification and performance shall be in accordance with the following requirements:

1 Sampling and quality determination of the raw material and finished products of the resin bonding layer shall meet the requirements of Article 5.1.4 of this standard.

2 Sampling and quality determination of raw material and finished products of water soluble silicate bonding layer shall meet the requirements of Article 6.1.3 of this standard.

3 Sampling and quality determination of the raw material and finished products of the polymer cement screed bonding layer shall meet the requirements of Article 7.1.3 of this standard.

8.1.5 The sampling inspection quantity and quality determination of the material, specification and performance of acid-proof brick, acid-resistant and heat-resistant brick, anticorrosive carbon brick and natural stone material shall be in accordance with the following requirements:

1 Sampling and quality determination of acid-resistant brick and acid-resistant and temperature resistant brick shall comply with the current national standards GB/T 8488 *Acid Resisting Bricks and Tiles* and JC/T 424 *Acid and Heat Resisting Bricks*.

2 Anticorrosion carbon bricks and natural stone shall be taken 3 pieces from each batch. The compressive strength may be determined using three 50mm×50mm×50mm test pieces; the acid Pickling stability and water absorption rate may be determined using four 50mm×50mm×50mm test block; the acid resistance of natural stone shall not be less than 95%, and the determination of

acid resistance may comply with the current national standard GB/T 8488 *Acid Resisting Bricks and Tiles*.

3 Where one indicator of the sampling inspection results of the anticorrosion carbon brick and natural stone material is unqualified, the sampling shall be doubled for repeat test. Where there is still an unqualified indicator, the quality of the product shall be judged as unqualified.

8.1.6 Sampling inspection and quality determination of vinyl ester resin screed block shall be in accordance with the following requirements:

1 Sampling of compressive strength inspection shall comply with the relevant provisions of the current national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering*.

2 Sampling for bending strength inspection shall comply with the relevant provisions of the current national standard GB/T 8488 *Acid Resisting Bricks and Tiles*.

3 Sampling of impact resistance inspection shall comply with the relevant provisions of the current national standard GB/T 50590 *Technical Code for Anticorrosion Engineering of Vinyl Ester Resins*.

4 Sampling of water absorption inspection shall comply with the relevant provisions of the current national standard GB/T 50590 *Technical Code for Anticorrosion Engineering of Vinyl Ester Resins*.

5 Sampling of bonding strength inspection with resin mortar shall comply with the relevant provisions of the current national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering*.

6 Where one indicator of the sampling inspection results is unqualified, the sampling repeat test shall be doubled. Where there is still an unqualified indicator, the quality of the product shall be judged as unqualified.

8.1.7 The test method and assessment of the corrosion resistance of block shall be in accordance with the following requirements:

1 For acid-resistant brick, acid-resistant and temperature-resistant brick, anticorrosive carbon brick and natural stone block, it shall comply with Section F.4 of this standard;

2 For vinyl ester resin screed block, it shall comply with Section F.1 of this standard.

8.1.8 For acceptance items with allowable deviation, no less than 80% of the measured value of each item shall meet the relevant requirements of this standard, and the maximum value shall not exceed 20% of the allowable deviation value.

8.2 Isolation layer

I Dominant item

8.2.1 The resin coating, fiber reinforced plastic, polyurethane waterproof coating, polymer modified asphalt coil, and polymer coil used in the isolation layer shall meet the design requirements or the relevant national standards.

Inspection method: check the product factory certificate, material test report or repeat test report of spot sampling.

8.2.2 Where a base coat needs to be brushed before construction of isolation layer, the base coat shall meet the design requirements or the relevant national standards.

Inspection method: visual inspection, check construction records or concealed engineering

records.

8.2.3 The construction mix ratio of onsite preparation materials shall meet the relevant requirements of this standard.

Inspection method: visual inspection and inspect construction records.

8.2.4 The number and thickness of isolation layers shall meet the design requirements. The coating type isolating layer shall be coated without leakage. The thickness of the fiber reinforced plastic isolation layer shall meet the requirements of Article 5.2.4 of this standard. The coil type isolation layer shall be flattened and compacted, and there shall be no bubbles, wrinkles, warped edges, and hollowing, and seams shall be firmly bonded.

Inspection method: visual inspection and inspect construction records.

8.2.5 The bonding strength between resin-coated, fiber reinforced plastic isolation layers and base course shall meet the requirements of Article 5.1.7 of this standard.

Inspection method: inspect by pull-off test or cross-over method.

II General item

8.2.6 The inspection and inspection methods for the resin content, pinholes, and surface curing degree of the fiber reinforced plastic isolation layer shall meet the requirements of Articles 5.2.1 to 5.2.3 of this standard.

8.2.7 The maximum allowable negative deviation of the overlap width of the construction of the fiber reinforced plastic and coil isolation layer shall be 20mm.

Inspection method: visual inspection and measurement inspection.

8.3 Bonding layer

I Dominant item

8.3.1 The material of the bonding layer shall meet the design requirements or the the provisions of relevant current national standards.

Inspection method: check product factory certificate, material test report, or repeat test report of onsite sampling.

8.3.2 The construction mix ratio of onsite preparation materials shall meet the relevant requirements of this standard.

Inspection method: visual inspection and inspect construction records.

8.3.3 The bond of bonding layer with isolation layer, base course or block material shall be free of hollowing, and its bonding strength shall be in accordance with the following requirements:

- 1 When using resin materials, it shall meet the requirements of Article 5.1.7 of this standard.
- 2 When using water soluble silicate materials, it shall meet the requirements of Articles 6.1.6 and 6.1.7 of this standard.
- 3 When using polymer cement screed materials, it shall meet the requirements of Article 7.1.6 of this standard.

Inspection method: inspect by pull-off test or cross method.

II General item

8.3.4 The thickness of the bonding layer shall be in accordance with those specified in Table 8.3.4.

Table 8.3.4 Bonding layer thickness

Block type		Bonding layer thickness (mm)				
		Resin		Water soluble silicate		Polymer cement screed
		Mortar	Screed	Mortar	Screed	
Acid-resistant brick, acid-resistant and temperature-resistant brick, anticorrosion carbon brick		4-6	-	4-6	-	4-6
Vinyl ester resin screed block		4-6	-	-	-	-
Natural stone	Thickness $\leq 30\text{mm}$	4-8	-	4-8	-	4-8
	Thickness $> 30\text{mm}$	-	8-15	-	8-15	8-15

Inspection method: visual inspection, inspect construction records and concealed engineering records.

8.4 Block layer

I. Dominant item

8.4.1 The varieties, specifications and performance of acid-resistant bricks, acid-resistant and temperature-resistant bricks, anticorrosion carbon bricks and natural stone materials shall meet the design requirements or the provisions of relevant current national standards, and the quality of vinyl ester resin screed blocks shall be in accordance with those specified in Table 8.4.1.

Table 8.4.1 Mass of vinyl ester resin screed blocks

Item	Index
Compressive strength (MPa)	≥ 80.0
Bending strength (MPa)	≥ 30.0
Impact resistance (1kg steel ball free fall, m)	≥ 3.0
Water absorption (%)	≤ 0.10
Bonding strength with resin mortar (MPa)	≥ 3.0

Inspection method: check product factory certificate, material test report or repeat test report of onsite sampling.

8.4.2 The quality requirements, mix ratios, and requirements of raw materials and finished products of various mortars or screeds for paving blocks shall meet the relevant requirements of this standard.

Inspection method: check product factory certificate, quality inspection report and construction record.

8.4.3 The butt joint of the blocks shall be full and dense, uniform and tidy and consistent. The paved blocks shall not have through seams, overlapping seams or other phenomenon. The width and depth of the butt joint shall be in accordance with those specified in Table 8.4.3.

Table 8.4.3 Width and depth of butt joint

Block type		Butt joint width (mm)		Butt joint depth (mm)
		Squeeze	Caulking	
Acid-resistant brick, acid-resistant temperature-resistant brick, anti-corrosion carbon brick		2-5	-	Full
Vinyl ester resin screed block		2-5	8-12	Full
Natural stone	≤30mm	3-6	8-12	Full
	≤30mm			
	Thickness > 30mm	-	8-15	Full

Inspection method: visual inspection and measuring instrument inspection.

II General item

8.4.4 The inspection of the slope of the block shall meet the requirements of Article 4.2.10 of this standard.

Inspection method: check with ruler and level, and do water splash test.

8.4.5 The height difference and surface flatness between adjacent blocks of the block surface course shall be in accordance with the following requirements:

1 The height difference between adjacent blocks of the block surface course shall not be larger than the following values:

- 1) For surface course of acid-resistant bricks, acid-resistant and temperature-resistant bricks, and anticorrosion carbon bricks, it shall be 1.5mm.
- 2) For surface course of vinyl ester resin screed blocks and mechanically cut natural stone with a thickness of 30mm or less, it shall be 2.0mm.
- 3) For surface course of artificial processed or mechanically planed natural stone with a thickness larger than 30mm, it shall be 3.0mm.

2 The allowable gap of the surface flatness of the block surface course shall not be larger than the following values:

- 1) For surface course of acid-resistant bricks, acid-resistant and temperature-resistant bricks, and corrosion-resistant carbon bricks, it shall be 4.0mm.
- 2) For surface course of vinyl ester resin screed blocks and mechanically cut natural stone with a thickness of 30mm or less, it shall be 4.0mm.
- 3) For surface course of artificial stone or planed natural stone with a thickness larger than 30mm, it shall be 6.0mm.

Inspection method: The height difference of adjacent blocks shall be checked with a ruler. The surface flatness should be checked with a 2m ruler and a wedge feeler.

9 Anticorrosive project of sprayed polyurea

9.1 General requirements

9.1.1 This chapter applies to the construction quality acceptance of anticorrosive project of sprayed polyurea on the surface of concrete and steel structures.

9.1.2 The number of sampling inspections for anticorrosive project of sprayed polyurea shall be in accordance with the following requirements:

1 When using polyurea spraying on the surface of the concrete base course, every construction area below 20m² shall be an inspection lot, and each inspection lot shall be inspected at three points; all corners, nozzles and difficult-to-construction parts shall be fully inspected.

2 When using polyurea spraying on the surface of the steel structure base course, every construction area below 20m² shall be an inspection lot, and each inspection lot shall be inspected at three points; all corners, nozzles and difficult-to-construction parts shall be fully inspected.

9.1.3 The sampling inspection quantity of spray type polyurea raw materials and finished products shall be in accordance with the following requirements:

1 Polyurea primer material shall be divided into one inspection lot every 1t in the same batch; one set of samples shall be randomly selected in every inspection lot, and the quantity shall not be less than 3kg.

2 Polyurea materials shall be divided into one inspection lot every 5t in the same batch, and if it is less than 5t, it shall be treated as one inspection lot; one set of samples shall be randomly selected in every inspection lot.

3 The specifications of finished spray type polyurea products shall be 450mm×450mm×(1.5–2.0)mm, and shall be tested after cured at (23±2)°C for 7 days.

9.1.4 Where one indicator of the sampling inspection results of raw materials and finished products of polyurea is unqualified, the sampling shall be doubled for repeat test. Where there is still an unqualified indicator, the quality of the product shall be judged as unqualified.

9.1.5 The corrosion resistance test method and assessment of spray type polyurea materials shall comply with Section F.5 of this standard.

9.2 Sprayed polyurea bottom coating

I Dominant item

9.2.1 The quality of sprayed polyurea primer and auxiliary materials shall meet the relevant requirements of the current professional standard HG/T 20273 *Technical Code for Coating Engineering of Spraying Polyurea Protection Materials*.

Inspection method: check factory certificate, product inspection report; product quality repeat test report sampled on site.

9.2.2 The bonding strength between the sprayed polyurea primer and the base course shall be in accordance with the following requirements.

1 The bonding strength with concrete base course shall be larger than 2.0MPa.

Inspection method: shall comply with the current national standard GB/T 5210 *Paints and Varnishes—Pull-Off Test for Adhesion*. The concrete test block size shall be 60mm×60mm×30mm.

2 The bonding strength with the steel structure base course shall be larger than 4.5MPa where epoxy primer is used; larger than 3.5MPa where polyurethane primer is used.

Inspection method: shall comply with the current national standard GB/T 5210 *Paints and Varnishes—Pull-Off Test for Adhesion*.

II General item

9.2.3 The surface of the sprayed polyurea primer shall be cured and flat, and the coating shall be free of cracks, peeling, and missing coating.

Inspection method: visual inspection.

9.3 Sprayed polyurea top coating

I Dominant item

9.3.1 The quality of sprayed polyurea top coating material shall meet the requirement of the current national standard HG/T 3831 *Spray Polyurea for Materials Protection*.

Inspection method: check factory certificate, product quality inspection report; onsite sample quality inspection report or third party inspection report.

9.3.2 The construction environmental conditions shall meet the relevant requirements of the current national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering*.

Inspection method: use dry and wet bulb thermometer to measure the temperature and humidity of the construction environment, and use dew point disk to calculate the dew point temperature.

9.3.3 The bonding strength of sprayed polyurea top coating shall be in accordance with the following requirements:

1 The bonding strength with the polyurea bottom coating of the concrete base course shall not be less than 2.0MPa.

Inspection method: shall be carried out according to the pull-off test method in the current national standard GB/T 5210 *Paints and Varnishes—Pull-Off Test for Adhesion*, the onsite testing time shall be after the spray coating is cured.

2 The bonding strength with the polyurea bottom coating of steel structure base course shall not be less than 2.5MPa.

Inspection method: shall comply with the pull-off test method in the current national standard GB/T 5210 *Paints and Varnishes—Pull-Off Test for Adhesion*, the onsite testing time shall be after the spray coating is cured.

9.3.4 The thickness of the sprayed polyurea top coating shall meet the design requirements, and the thickness shall not be less than 80% of the design value.

Inspection method: destructive sampling of the surface of the concrete base course surface may be performed directly on the polyurea top coating. After cleaning, use a vernier caliper to measure; the polyurea surface course of the steel structure base course surface is measured by a magnetic thickness gauge.

9.3.5 The sprayed polyurea top coating shall have no penetrating pinholes.

Inspection method: surface of the concrete base surface shall be inspected by observation or a 5times magnifying glass; surface of the steel structure base surface shall be inspected by electric spark

tester, and the test voltage shall meet the relevant requirements of the current professional standard HG/T 20273 *Technical Code for Coating Engineering of Spraying Polyurea Protection Materials*.

II General item

9.3.6 Surface of the sprayed polyurea top coating shall be flat and uniform in color and shall be free from obvious sagging, sharp protrusions, cracks, mechanical damage and other phenomena.

Inspection method: visual inspection.

9.3.7 Treatment of the inner and outer angles and expansion joints of the sprayed polyurea top coating on the concrete base surface shall meet the relevant requirements of the current professional standard JGJ/T 200 *Technical Specification for Spray Polyurea Waterproofing*.

Inspection method: visual inspection.

9.3.8 Treatment of the inner and outer angles and welds of the sprayed polyurea top coating on the steel structure base surface shall meet the relevant requirements of the current professional standard HG/T 20273 *Technical Code for Coating Engineering of Spraying Polyurea Protection Materials*.

Inspection method: visual inspection.

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10 Anticorrosive project of coating type

10.1 General requirements

10.1.1 This chapter applies to the construction quality acceptance of anticorrosive project of coating type for steel, concrete, and wood base course surface.

10.1.2 The onsite sampling inspection quantity and quality determination of coating shall be in accordance with the following requirements:

1 Random sampling inspection shall be carried out according to different varieties, with each variety taking 5t as a inspection lot, and treated as an inspection lot if it is less than 5t. The entire barrel of product shall be randomly selected in each inspection lot, and the sampling method shall meet the requirements of the current national standard GB/T 3186 *Paints, Varnishes and Raw Materials for Paints and Varnishes—Sampling*.

2 Where one of the sampling inspection results is unsatisfactory, the number of sampling inspection shall be doubled. Where there is still an unqualified indicator, the quality of the product shall be judged as unqualified.

10.1.3 The number of coating thickness inspections shall be determined based on the area of the inspection area and shall be in accordance with the following requirements:

- 1** In case of less than 1m², 5 points shall be measured.
- 2** In case it is larger than or equal to 1m² and less than 3m², it shall not be less than 10 measurement points.
- 3** In case it is larger than or equal to 3m² and less than 10m², it shall not be less than 15 measurement points.
- 4** In case it is larger than or equal to 10m² and less than 30m², it shall not be less than 20 measurement points.
- 5** In case it is larger than or equal to 30m² and less than 100m², it shall not be less than 30 measurement points.
- 6** In case it is larger than or equal to 100m², there shall not be less than 30 measurement points in the first 100m², and for every additional 100m², the number of additional measurement points shall not be less than 10.

10.1.4 In case the number of inspection items for anticorrosive project of coating type is not specified, it shall meet the requirements of Article 4.1.2 of this standard.

10.1.5 The test method and assessment of the corrosion resistance of coatings shall comply with this standard in Section F.6.

Dominant item

10.1.6 The basic technical performance indicators of coatings shall meet the requirements of relevant national standards; the selection of variety specifications shall meet the coating design requirements.

Inspection method: check factory certificate, material test report and onsite sampling inspection.

10.1.7 The environmental conditions for the construction of coating type anticorrosion project shall meet the relevant requirements of the current national standard GB 50212 *Code for Construction of*

Building Anticorrosive Engineering.

Inspection method: use a sling hygrometer or a wet and dry bulb thermometer to measure the temperature and humidity of the construction environment. The dew point temperature was calculated using a dew point calculator, and the steel plate temperature was measured by a steel plate thermometer. Check construction records.

Inspection quantity: determined according to construction progress and actual needs.

10.1.8 The quality acceptance of the surface treatment of the base course before coating shall meet the relevant requirements of Chapter 4 of this standard.

Inspection method: roughness inspection of concrete base course treatment may be evaluated by visual inspection, and it shall be compared with 60-mesh coarse sandpaper, slightly coarser than 60-mesh coarse sandpaper. Roughness inspection of steel base course treatment may use replica tape method.

10.2 Coating

I Dominant item

10.2.1 The surface of the coating shall be smooth, flat and uniform, and shall be free of bubbles, shrinkage holes, pinholes, secondary rust, cracking, peeling, missing coating, dry spray, miscoating and sagging.

Inspection method: visual inspection or inspection with 5 times to 10 times magnifying glass. The coating holiday test on the surface of the steel base course may use a coating pinhole detector. The detection voltage shall be determined according to the technical requirements of the coating product.

Inspection quantity: all inspection.

10.2.2 The adhesion between the coating and the base course shall be in accordance with the following requirements:

1 The adhesion of the coating to the steel base course should not be less than 5MPa, the adhesion to the concrete base course should not be lower than 1.5MPa.

2 In case of a single coating or supporting coating of non-zinc-rich coating and non-resin-glass-flake coating with a film thickness of less than 250 μm is checked by cross-cut method, the adhesion should not be larger than grade 1.

3 When the adhesion of the wooden base course is checked by the grid method, the adhesion should not be larger than grade 1.

Inspection method: coating adhesion (pulling-off method) tester; coating adhesion is checked by paint film scribe (100 grid knife).

10.2.3 The thickness of the coating shall be uniform, and the number of layers and thickness of the coating shall meet the design requirements. The number of measuring points whose coating thickness is less than the thickness specified in the design shall not be larger than 10%, and the measured thickness at the measuring point shall not be less than 90% of the thickness specified in the design. In case the design has no special requirements, the maximum dry film thickness shall not exceed 3 times the design dry film thickness.

Inspection method: check construction records and concealed engineering records. The top coating of the steel base course shall be inspected with a magnetic or non-magnetic thickness gauge according to the substrate. The surface of concrete and wood base courses shall be inspected with an ultrasonic

thickness gauge, and synchronous samples may also be inspected.

II General item

10.2.4 The concrete or wooden base course shall be sealed before construction and the unevenness shall be repaired. The primer application time shall not exceed 5h for the steel base that has been derusted.

Inspection method: visual inspection, check construction records or concealed engineering records.

10.2.5 The preparation and construction process of each coating shall meet the relevant requirements of the current national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering*.

Inspection method: check construction records.

10.2.6 The dry time of the coating shall meet the relevant requirements of the current national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering*.

Inspection method: tack free time is detected by finger touch method. The hard dry time is measured by blade method.

Inspection quantity: determined according to the needs of construction progress.

10.2.7 The curing time of the coating shall meet the relevant requirements of the current national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering*.

Inspection method: check construction records.

10.2.8 Coating repair shall be repaired in layers according to the requirements of the coating process. The repaired coating shall be complete and uniform, and the adhesion and dry film thickness shall meet the design requirements.

Inspection method: visual inspection. Coating adhesion is checked with a paint film scale (100 grid knife) or coating adhesion (pulling-off method) tester. The dry film thickness test shall meet the requirements of Article 10.2.3 of this standard.

Check Quantity: check all repaired areas. Spot check one place for the coating adhesion.

11 Anticorrosive project of asphalt type

11.1 General requirements

11.1.1 The acceptance of the construction quality of asphalt anticorrosion projects shall include the following contents:

- 1 Integral surface layer of asphalt screed and asphalt concrete.
- 2 Gravel asphalt cushion.
- 3 Insulating layer of asphalt coated with dilute mortar.

11.1.2 The inspection quantity of asphalt anticorrosion projects shall meet the requirements of Article 4.1.2 of this standard.

11.1.3 The sampling quantity of the main raw materials and finished products of asphalt shall meet the requirements of Articles 6.1.3 and 6.1.4 of this standard.

11.1.4 The test method and evaluation of the corrosion resistance of asphalt materials shall comply with Section F.7 of this standard.

Dominant item

11.1.5 Asphalt, powder, fine aggregate and coarse aggregate used in asphalt anticorrosion projects shall meet the design requirements or the current relevant national standards.

Inspection method: check the product factory certificate, material test report or repeat test report of spot sampling.

11.1.6 The compressive strength of asphalt screed and asphalt concrete shall not be less than 3.0MPa at 20°C and not less than 1.0MPa at 50°C. The saturated water absorption (by volume) shall not be larger than 1.5%. Acid Pickling stability shall be acceptable.

Inspection method: check the inspection report or repeat test report of spot sampling.

11.2 Integral surface course of asphalt screed and asphalt concrete

I Dominant item

11.2.1 Asphalt screed and asphalt concrete surface course shall be firmly combined with the base course, and the surface shall be dense, without phenomenon such as cracks, hollowing and delamination.

Inspection method: visual inspection and percussion inspection.

II General item

11.2.2 The ground surface course of asphalt screed and asphalt concrete is flat and smooth. The slope shall meet the design requirements. The allowable gap of the surface flatness shall not be larger than 6mm.

Inspection method: visual inspection, instrument inspection and inspection with 2m ruler.

11.3 Isolation layer of thin asphalt mortar

I Dominant item

11.3.1 The cold primer oil coating of thin asphalt mortar coated isolation layer shall be complete.

Inspection method: visual inspection and check construction records.

11.3.2 The number and thickness of coated isolation layer shall meet the design requirements. The coating shall be firmly bonded, the surface shall be flat and shiny, and there shall be no bulging and cracks.

Inspection method: visual inspection and check construction records.

II General item

11.3.3 The construction mix ratio of cold primer oil and thin asphalt mortar shall meet the design requirements. Where there is no design requirement, it shall meet the relevant requirements of the current national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering*.

Inspection method: check construction records.

11.4 Crushed stone filled asphalt cushion

I Dominant item

11.4.1 The crushed stone particle size, cushion size, crushed stone compaction and penetration depth shall meet the design requirements, and shall be compact without leakage.

Inspection method: check construction records and visual inspection.

II General item

11.4.2 The slope of the crushed stone filled asphalt cushion shall meet the design requirements.

Inspection method: visual inspection and instrument inspection.

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12 Anticorrosive project of plastics type

12.1 General requirements

12.1.1 The acceptance of the quality of anticorrosive project of plastics type shall include the following contents:

- 1 Pool lining made of hard polyvinyl chloride plastic sheet, polyethylene plastic sheet, and polypropylene plastic sheet.
- 2 Pool lining or ground surface course made of soft polyvinyl chloride plastic sheet.
- 3 Welding of components of hard polyvinyl chloride plastic sheet, polyethylene plastic sheet, and polypropylene plastic sheet.

12.1.2 The number of inspections for anticorrosion projects of hard polyvinyl chloride plastic sheet, soft polyvinyl chloride plastic sheet, polyethylene plastic sheet, and polypropylene plastic sheet: one spot inspection shall be per 10m² area, and there shall not be less than 3 points at each place. Where it is less than 10m², it shall be calculated as 10m².

12.1.3 The inspection quantity of variety, specification and performance of hard polyvinyl chloride plastic sheet, soft polyvinyl chloride plastic sheet, polyethylene plastic sheet, and polypropylene plastic sheet may comply with the current national standard GB/T 22789.1 *Plastics—Unplasticized Poly (Vinyl Chloride) Sheets—Types, Dimensions and Characteristics—Part 1: Sheets of Thickness Not Less Than 1mm*.

Dominant item

12.1.4 The quality of raw materials such as welding rods and adhesives used for welding of hard polyvinyl chloride plastic sheets, polyethylene plastic sheets, polypropylene plastic sheets, soft polyvinyl chloride plastic sheets and all kinds of plastic sheets above shall meet the design requirements or the provisions of current relevant national standard.

Inspection method: check the product factory certificate, material quality inspection report or repeat test report of spot sampling.

12.1.5 The quality of test pieces and specimens welded with polyvinyl chloride plastic sheets, polyethylene plastic sheets, polypropylene plastic sheets, and soft polyvinyl chloride plastic sheets shall be evaluated in accordance with relevant current national standards and shall pass the test pieces and specimen testing and process test identification.

Inspection method: check test report and construction record.

12.1.6 The plastic lining of the pool and the corners, floor drains, reserved holes, and pipeline entrances and exits shall be tightly combined, the joints shall be flat, and there shall be no air holes.

Inspection method: visual inspection, percussion inspection, inspection of construction records and water leakage detection records.

12.1.7 Plastic linings of metal structures shall be free of pinholes.

Inspection method: check with electric spark detector.

12.2 Pool lining made of hard polyvinyl chloride, polyethylene or polypropylene plastic plate

I Dominant item

12.2.1 The dimensions of hard polyvinyl chloride plastic sheet, polyethylene plastic sheet, and polypropylene plastic sheet shall meet the design requirements.

Inspection method: ruler inspection and visual inspection.

12.2.2 The joints of rigid polyvinyl chloride plastic sheets, polyethylene plastic sheets, and polypropylene plastic sheets shall be beveled. When welding, it shall be made into a V-shaped groove. The groove angle β : where the plate thickness is 10mm to 20mm, β shall be 80° to 75°, and where the plate thickness is 2mm to 8mm, β shall be 90° to 85°.

Inspection method: ruler inspection and inspection of concealed engineering records.

12.2.3 The relationship between welding rod diameter and plate thickness shall be in accordance with those specified in Table 12.2.3.

Table 12.2.3 Relationship between welding rod diameter and plate thickness (mm)

Weldment thickness	Welding rod diameter
2.0-5.0	2.0 or 2.5
5.5-15.0	2.5
16.0 or more	2.5 or 3.0

Inspection method: ruler inspection.

12.2.4 The welds of rigid polyvinyl chloride plastic sheets, polyethylene plastic sheets, and polypropylene plastic sheets shall be firmly welded, and the surface of the welds shall be full and dense. The tensile strength of the weld shall not be less than 60% of the strength of the base material of the plastic sheet. A 24-hour water injection test shall be performed after the construction is completed.

Inspection method: check the tensile strength test report of the weld, observe the inspection and check the water injection test records.

II General item

12.2.5 The appearance, flatness, and surface quality of welded anticorrosion coatings of rigid polyvinyl chloride plastic sheet linings, polyethylene plastic sheet linings, polypropylene plastic sheet linings, and components shall be in accordance with the following requirements:

1 The appearance of the anti-corrosion surface course of rigid polyvinyl chloride plastic sheet, polyethylene plastic sheet, and polypropylene plastic sheet shall be flat, smooth and uniform in color, and shall be free of wrinkles, perforations, warpage and blisters.

Inspection method: visual inspection.

2 The flatness of the anti-corrosion surface of the rigid polyvinyl chloride plastic sheet, polyethylene plastic sheet, and polypropylene plastic sheet shall not be larger than 2.0mm, and the difference in seam height between adjacent plates shall not be larger than 0.5mm.

Inspection method: 2m ruler and wedge ruler inspection.

3 The welding electrodes of the surface welds of the rigid polyvinyl chloride plastic sheet, polyethylene plastic sheet, and polypropylene plastic sheet shall be tight, and the electrode joints shall be staggered by 100mm. The weld surface shall be full, neat and smooth, and there shall be no slag

inclusion. The solder paste extruded on both sides shall be uniform and free from cracks, scorching, and solder bumps, and the unevenness shall not be larger than 0.6mm.

Inspection method: observe and inspect with 5 times magnifying glass.

12.3 Pool lining and ground surface course fabricated by soft polyvinyl chloride plate

I Dominant item

12.3.1 The overlap seams of soft polyvinyl chloride plastic sheets shall be welded by hot melt method or hot air method. The plates shall be tightly bonded, and there shall be no delamination or bulging. The outer seam of the lap joint shall be fully welded with a welding rod. The weld seam shall be firm and the seam shall be flat.

Inspection method: Dissection method to check the quality of the weld and visual inspection.

12.3.2 The mass ratio of chloroprene adhesive and polyisocyanate used in the adhesive paste method shall be 100:(7-10).

Inspection method: observe and inspect construction records.

12.3.3 Before pasting the soft polyvinyl chloride board, the surface shall be degreased and degreased with alcohol or acetone, and shall be shaved to no reflection.

Inspection method: check concealed engineering records.

12.3.4 When the soft polyvinyl chloride is pasted, the gas between the pasting surfaces shall be exhausted, and the joints shall be tightly pressed without peeling or warping.

Inspection method: visual inspection.

12.3.5 Check the adhesion of the full-coated adhesive. The 3.0mm thick sheet shall not fall off more than 20cm², the 0.5mm to 1.0mm thick sheet shall not fall off more than 9cm², the distance between each degumming place shall not be less than 50cm.

Inspection method: hammer inspection and ruler inspection.

12.3.6 The curing time of the adhesive method shall be determined according to the curing time of the adhesive used. Shall not be used before curing.

Inspection method: check construction records.

12.3.7 The arrangement and fixing of flat steel, beading and screws in the empty laying method and the beading screw fixing method shall be in accordance with the following requirements.

1 The inner surface of the pool shall be flat, and there shall be no protrusions, sand streaks, cracks, honeycombs and pitted surface.

Inspection method: observe and inspect construction records.

2 Welding shall be used during construction, and the overlapping width should be 20mm to 25mm.

Inspection method: ruler inspection and inspection of construction records.

3 The supporting flat steel or bead blanking shall be accurate. The corners and welded joints shall be ground flat, the supporting flat steel and the inner wall of the pool shall be fastened, the bead shall be tightened with screws, and the fixing shall be secure. The support flat steel or bead shall be covered with a soft board and welded firmly.

Inspection method: observe and inspect construction records.

4 When fixing with bead screws, the screws shall be arranged in a triangle and the line spacing shall be 400mm to 500mm.

Inspection method: observe and inspect construction records.

12.3.8 The lining of the empty paving method and the bead screw fixing method shall be subjected to a 24 hour water injection test, and there shall be no water leakage in the leak detection hole.

Inspection method: observe inspection, inspect construction records and test reports.

II General item

12.3.9 The inspection of the appearance, flatness, and surface quality of the anticorrosion surface course of soft polyvinyl chloride plastic sheet meet the requirements of Article 12.2.5 of this standard.

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13 Acceptance of construction

13.0.1 The inspection and acceptance of the quality of inspection lots, sub-item projects and part projects of building anticorrosion engineering shall be carried out on the basis that the construction unit has passed the self-inspection, and the quality of each inspection batch that constitutes a sub-project shall meet the corresponding quality requirements of this standard.

13.0.2 After the Inspection lots and sub-item project quality acceptance are all qualified, part project acceptance shall be carried out.

13.0.3 During project acceptance, the following materials shall be submitted:

1 Certificates of delivery of various anticorrosion materials, finished products and semi-finished products, material test reports or repeat test reports of onsite sampling.

2 Test report of the mix ratio and main technical performance of corrosion-resistant mortar, screed, fine stone concrete, resin binder, coatings, etc.

3 Design change notices, technical documents for material substitution, and records of handling of major technical issues during construction.

4 Repair or rework records.

5 Concealed construction and acceptance records.

6 Summary table of construction anti-corrosion project delivery.

13.0.4 For anti-corrosion projects with special requirements, the relevant technical indicators shall be tested during acceptance as agreed in the contract.

Appendix A Check record of on site quality control

Table A Inspection records of quality management at the construction site

Unit (sub-unit)project name				Part project name	
Construction unit				Project manager	
Design organization				Project manager (Site design representative)	
Supervision organization				Managing director	
Construction organization		Project manager		Project technical leader	
Subcontracting organization				Project manager	
No.	Item	Main content			
1	Project department quality management system				
2	Site quality responsibility				
3	Major professional job operation post certificate				
4	Subcontracting organization management system				
5	Drawing review record				
6	Construction technical standards				
7	Construction organization design, construction plan preparation and approval				
8	Material purchase management system				
9	Construction facility and machinery management system				
10	Metering equipment				
11	Inspection and test management system				
12	Engineering quality inspection and acceptance system				
Self-test results:		Inspection conclusion:			
Construction organization:		Managing director:			
Project manager:		(Project leader of construction unit)			
Date:		Date:			

Appendix B Quality acceptance record of inspection lot

Table B Inspection record of inspection lot quality

Organization (sub-organization) project name		Part project name					
Construction organization		Project manager					
Subcontracting organization		Project manager					
Sub-item project		Inspection lot		Inspection lot			
Name		Capacity		Location			
Construction basis							
Acceptance basis							
Dominant item	Acceptance item		Design requirements and specifications	Minimum/actual sample size	Inspection records	Supervision (construction) organization inspection results	
	No.	Name				Qualified	Disqualified
	1						
	2						
	3						
	4						
	5						
General item	1						
	2						
	3						
	4						
Construction organization inspection results			<input type="checkbox"/> Qualified <input type="checkbox"/> Disqualified Supervisor: Project professional quality inspector: Date:				
Supervision (construction) organization acceptance conclusion			<input type="checkbox"/> Qualified <input type="checkbox"/> Disqualified Professional supervision engineer: (Professional technical leader of construction organization project) Date:				

Appendix C Quality acceptance record of sub-item project

Table C Quality acceptance record of sub-item project

Organization (sub-unit) project name		Part project name					
Number of sub-item projects		Inspection lot quantity					
Construction organization		Project manager			Project technical leader		
Subcontracting organization		Project manager			Subcontracting content		
No.	Inspection lot name	Inspection lot capacity	Part/section	Construction organization inspection results		Supervision (construction) acceptance conclusion of construction organization	
				Qualified	Disqualified	Qualified	Disqualified
1							
2							
3							
4							
5							
6							
7							
Explanation:							
Construction organization inspection results		<input type="checkbox"/> Qualified <input type="checkbox"/> Disqualified Project technical leader: Date:					
Supervision (construction) unit acceptance conclusion		<input type="checkbox"/> Qualified <input type="checkbox"/> Disqualified Professional supervision engineer (Professional technical leader of construction unit project): Date:					

Appendix D Quality acceptance record of building part anticorrosion project

Table D Quality acceptance record of building part anticorrosion project

Organization (sub-organization) project name				Number of sub-item projects		
Construction organization		Project manager		Person in charge of technology (quality)		
Subcontracting organization		Project manager		Subcontracting content		
No.	Sub-item project name	Inspection lot quantity	Construction unit inspection results		Supervision (construction) unit acceptance conclusion	
			Qualified	Disqualified	Qualified	Disqualified
1						
2						
3						
4						
5						
6						
Quality control information			<input type="checkbox"/> Qualified <input type="checkbox"/> Disqualified		<input type="checkbox"/> Qualified <input type="checkbox"/> Disqualified	
Comprehensive acceptance conclusion						
Project leader of the construction organization: Date:		Design unit project leader: Date:		Supervising (construction) unit director engineer: (Project leader of construction unit) Date:		

Appendix E Verification record of quality guarantee

Table E Quality assurance data verification record

Unit project name		Construction organization				
No.	Profile name	Servings	Construction unit		Supervision unit (construction unit)	
			Verification opinion	Verifier	Verification opinion	Verifier
1	Construction organization (subcontracting organization) qualification report form					
2	Construction site quality management inspection record sheet					
3	Raw material product certificate, quality certificate or test report					
4	Raw material entry inspection and repeat test report					
5	Corrosion resistant mortar, screed, concrete, fiber reinforced plastic binder mix ratio and main technical performance test report					
6	Corrosion resistant mortar, screed, concrete, fiber reinforced plastic test blocks, test pieces self-test or witness test report					
7	Concealed engineering acceptance record					
8	Drawing review record, design change notice, engineering negotiation record (technical approval order)					
9	Grassroots inspection handover record					
10	Interim handover record					
11	Sub-item and part project quality acceptance records					
12	Repair or rework records					
13	New technology, new material demonstration, filing and construction plan					
14	Witness record					
15	Construction record					
16	Delivery acceptance record					
Construction organization		Supervision organization (construction organization)				
Acceptance conclusion	Project manager of construction organization; Date:	Managing director: (Project leader of construction organization) Date:				

Appendix F Test method and evaluation standard for corrosion resistance of materials

F.1 Resin materials

F.1.1 The test of the corrosion resistance of resin materials should use resin mortar test pieces and shall be in accordance with the following requirements:

1 The size of the test piece shall be a 30mm×30mm×30mm cube. First put the mortar into the test mold and tamp it. Vibrate 25 times on the jumping table and scratch the surface. After 24h molding, the mold shall be demoulded and the shape of the test piece shall be complete. After curing for 28 days at a temperature of 20°C to 30°C, the test piece shall be grouped and weighed with a balance of 0.01g.

2 Immerse the grouped test pieces in the corrosive medium to be tested. The bottom surface of the test piece shall be elevated, the sides shall be separated, and the medium shall be higher than the surface of the test piece. During the immersion, the concentration of the medium shall be kept constant.

3 The age of the soaking period should be 1 month, 3 months, 6 months, and 12 months. Among them, the age of 1 month and 3 months may be measured without intensity.

4 After reaching the age of each period, first rinse the test piece with water, and dry the surface of the test piece with filter paper, then weigh it with a balance with an accuracy of 0.01g, and then measure the compressive strength.

F.1.2 The test of the corrosion resistance of resin materials shall include the appearance change, quality change and compressive strength change of the test specimen, and shall be in accordance with the following requirements:

1 The appearance change of the test piece shall be observed whether the surface of the test piece is intact, whether there are defects such as loss of light, erosion, pitting, looseness, softening and cracks.

2 For each expiry age, take out a group of test pieces, weigh them on a balance with an accuracy of 0.01g, and take the average of three weights. The mass change rate shall be calculated according to the following formula:

$$M_{\text{change}}=(M_1-M_0)/M_0\times 100 \quad (\text{F.1.2-1})$$

where, M_{change} —mass change rate (%).

M_0 —the average mass (g) of a group of test pieces before soaking, accurate to 0.01g.

M_1 —the average mass (g) of a group of test pieces after soaking, accurate to 0.01g.

The calculation result is a positive value, which indicates the weight gain of the test piece; the calculation result is a negative value, which indicates the weight loss of the test piece.

3 Test the compressive strength of the test pieces at the age of failure. Take the average value of each group of test pieces. The change rate of compressive strength shall be calculated according to the following formula:

$$S_{\text{change}}=(S_1-S_0)/S_0\times 100 \quad (\text{F.1.2-2})$$

where, S_{change} —change rate of compressive strength of the test piece (%).

S_0 —the original compressive strength (MPa) of the average of a group of test pieces before soaking, accurate to 0.01MPa.

S_1 —the average compressive strength (MPa) of a group of test pieces after soaking, accurate to 0.01MPa.

A positive result indicates an increase in compressive strength; a negative result indicates a decrease in compressive strength.

F.1.3 The evaluation standards for the corrosion resistance of resin materials shall be in accordance with the following requirements:

1 The assessment of the corrosion resistance level shall be in accordance with those specified in Table F.1.3.

Table F.1.3 Evaluation of corrosion resistance

Grade	Weight loss rate (%)	Weight gain rate (%)	Strength reduction rate (%)	Exterior
Corrosion-resistant	<0.5	<3.0	<20.0	No significant changes
Passable	0.5-3.0	3.0-8.0	20.0-40.0	The surface is slightly powdery and rough
Not resistant	>3.0	>8.0	>40.0	Crisp, air bubbles, cracks, falling corners, softness, peeling, etc.

2 In the detection index of appearance change, quality change, and compressive strength change, where one of the indicators does not meet the grade standard, the corrosion resistance of the resin material shall be degraded.

F.2 Water soluble silicate materials

F.2.1 Water soluble silicate material corrosion resistance test should use water soluble silicate screed test pieces, water soluble silicate concrete test pieces may also be used, and shall be in accordance with the following requirements:

1 The size of water soluble silicate screed test block shall be 70.7mm×70.7mm×70.7mm cube, and the water soluble silicate concrete test specimen shall be 100mm×100mm×100mm cube.

2 The production and maintenance of test blocks shall meet the relevant requirements of the current national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering*.

3 Immerse the grouped test blocks in a covered container with the test medium. The bottom surface of the test block shall be elevated, the sides shall be separated, and the medium shall be higher than the surface of the test block. During the test, the original concentration of the medium shall be maintained, and the water quality shall be neutral where soaked in water.

4 The temperature of the test medium shall be maintained at the temperature specified in the test conditions. When it is normal temperature, the temperature shall be 0 to 40°C.

5 The age of the soaking period should be 1 month and 3 months. Where the medium is a dilute acid, water and salt solution, it shall be 6 months.

6 Where the test medium is a salt solution of intumescent corrosion, a semi-immersion corrosion test shall be performed.

7 After reaching the age, take out the test block, rinse it with water, and dry it for 24 hours in the shade.

F.2.2 The corrosion resistance test of water soluble silicate materials shall include changes in appearance and changes in compressive strength, and shall be in accordance with the following

requirements:

1 The appearance of the test block shall be checked for cracks, bulging, crunching and falling off.

2 Test pieces at the age of expiry shall be tested for compressive strength, and the average value of three test blocks in each group shall be taken. The compressive strength change rate shall be calculated according to the following formula:

$$R_{\text{change}} = (R_1 - R_0) / R_0 \times 100 \quad (\text{F.2.2})$$

where, R_{change} —the change rate of compressive strength of the test piece (%).

R_0 —the original compressive strength (MPa) of the average of a group of test specimens before the test, accurate to 0.01MPa.

R_1 —the compressive strength (MPa) of the average value of a group of test pieces after the test, accurate to 0.01MPa.

A positive result indicates an increase in compressive strength; a negative result indicates a decrease in compressive strength.

F.2.3 The evaluation standards for the corrosion resistance of water soluble silicate materials shall be in accordance with the following requirements:

1 The assessment of corrosion resistance level shall be in accordance with those specified in Table F.2.3.

Table F.2.3 Evaluation of corrosion resistance grade

Grade	Strength reduction rate (%)	Appearance change
Corrosion-resistant	<20.0	Not obvious
Passable	20.0-40.0	Slightly changed
Not resistant	>40.0	Cracked, fluffy, flaking

2 Among the detection indicators of appearance change and compressive strength change, where one of the indicators does not meet the level standard, the corrosion resistance of the water soluble silicate material shall be degraded.

F.3 polymer cement screed materials

F.3.1 The corrosion resistance test of polymer cement screed materials should use 40mm×40mm×160mm rectangular test pieces, and shall be in accordance with the following requirements:

1 Apply a release agent to the inner wall of the 40mm×40mm×160mm mold; at 14°C to 18°C, pour an appropriate amount of polymer latex into the premixed uniform sand-ash mixture, and stir it evenly.

2 Put the mixed polymer cement screed into the mold, tamp it and flatten it. After the initial setting, cover it with moist cotton cloth and release the mold after 24 hours. Use alkaline detergent to clean the mold release agent remaining on the test piece and dry. After the specimens were cured for 7 days under humid conditions, they were dried for 21 days.

3 Group three test pieces in each group. The corrosion resistance test of the liquid medium shall be in the form of full immersion. The test pieces shall be separated from each other. The liquid level shall be at least 10mm to 20mm higher than the top surface of the test piece. Where the expansion type corrosive salt medium is selected, the semi-immersion test shall be added, that is, the test piece is placed 20mm in the solution in the horizontal position, and 20mm in the air is exposed.

4 The temperature of the soaking medium shall be 5°C to 35°C. During the test, the concentration of the medium shall remain the same, which may be checked every 7 days in the first month and every three months thereafter.

5 The age of the soaking period shall be 1 month, 3 months, 6 months, and 12 months. Among them, only the appearance change of the specimen may be checked at the age of 1 month and 3 months, and no strength determination is made. 6 and 12 months of age shall be tested for changes in appearance and strength of the specimen.

F.3.2 The test of the corrosion resistance of polymer cement screed materials shall include changes in appearance, flex and compressive strength, and shall be in accordance with the following requirements:

1 After soaking, the appearance of the specimen shall be checked to see if there are any phenomena such as pulverization, sand streaks, corner drop and cracking;

2 Expiry age test pieces shall be tested for flexural and compressive strength, and the test methods shall meet the relevant requirements of the current industry standard DL/T 5126 *Test Code on Polymer-Modified Cement Mortar*.

F.3.3 The evaluation standard for the corrosion resistance of polymer cement screed materials shall meet the following requirements:

1 The assessment of corrosion resistance level shall be in accordance with those specified in Table F.3.3.

Table F.3.3 Evaluation of corrosion resistance grade

Grade	Strength reduction rate (%)	Appearance change
Corrosion-resistant	<20.0	Basically unchanged
Passable	20.0-40.0	Powdering and sand streaks
Not resistant	>40.0	Severe sand streaks, falling off, cracking

2 Among the detection indicators of appearance change, flexural strength, and compressive strength change, where one of the indicators does not meet the level standard, the corrosion resistance of the polymer cement screed-type material shall be degraded.

F.4 Block materials

F.4.1 The corrosion resistance test of block materials shall meet following requirements:

1 Acid-resistant bricks, acid-resistant and temperature-resistant bricks, and anticorrosive carbon bricks should be the size of the test block when testing the compressive strength, or the same, and the thickness should not be less than 20mm, three pieces per group.

2 Granite and other natural stone materials should be processed into 50mm×50mm×50mm test blocks, each group of 3 blocks, shall be checked with a magnifying glass before the experiment, and those without cracks may be used.

3 Wash the test block with water, dry it, and cool it naturally.

4 Before the corrosion test, first measure the original strength value of the block.

5 Dip the test block into a container with a lid containing a corrosive medium. The bottom surface of the test block shall be elevated, the sides shall be separated, and the liquid level of the test block shall be higher than the surface of the test block. During the immersion period, the concentration of the

medium shall be maintained, and the temperature value shall be maintained during very warm corrosion tests.

6 After soaking for 45 days, take out the test block, rinse with water and wipe with gauze.

7 Where the medium is lye or salt medium with crystalline swelling corrosion, alternate dry-wet test (dry 2d, wet 2d, not less than 15 cycles) or semi-immersion test (not less than 60d) shall be performed, Check the appearance change and strength retention after corrosion.

F.4.2 The test of the corrosion resistance of block materials shall include changes in the appearance of the test block surface and the immersion medium, changes in the compressive strength of the test block, and shall be in accordance with the following requirements:

1 Check the test block for cracks, spalling, swelling, and falling off, and observe the discoloration of the soaking medium. Where the test block is complete and the surface of the test block and the soaking medium have not changed significantly, the appearance is considered to be qualified.

2 The compressive strength of the test block shall comply with the relevant provisions of the current national standard GB/T 18601 *Specification for Natural Granite for Building Slab*, and its strength retention rate shall be calculated according to the following formula:

$$N=K_1/K \times 100 \quad (\text{F.4.2})$$

where, N —the strength retention rate (%) of the test block.

K_1 —the compressive strength (MPa) of the average value of a group of test blocks after the test, accurate to 0.01MPa.

K —the original compressive strength (MPa) of the average value of a group of test blocks before the test, accurate to 0.01MPa.

F.4.3 The standard for evaluating the corrosion resistance of block materials shall meet the following requirements:

1 The assessment of corrosion resistance level shall be in accordance with those specified Table F.4.3.

Table F.4.3 Evaluation of corrosion resistance grade

Grade	Evaluation standards		Applicability
	Appearance after corrosion	Strength retention rate (%)	
Corrosion-resistant	Qualified	≥ 90.0	Recommended use
		$80.0 \leq N < 90.0$	May use
Passable	Basically qualified	$60.0 \leq N < 80.0$	Generally not used
Not resistant	Disqualified	$N < 60.0$	Shall not be used

2 Among the detection indicators of appearance change and compressive strength change, where one of the indicators does not meet the level standard, the corrosion resistance of block materials shall be degraded.

F.5 Sprayed polyurea

F.5.1 The preparation of corrosion resistance samples of sprayed polyurea materials shall be in accordance with the following requirements:

1 Spraying equipment with a feed volume ratio of 1:1, a working pressure of larger than 20MPa,

and a working temperature of 50°C to 80°C shall be used.

2 The same corrosive medium is a group of samples, sprayed on a polytetrafluoroethylene plate or polyethylene plate with a smooth surface and a size of not less than 450mm×450mm×6mm. The coating thickness shall be 1.5mm to 2.5mm. The thickness error of the measuring point shall not be larger than 0.5mm. The thickness detection may be carried out according to the current national standard GB/T 13452.2 *Paints and Varnishes—Determination of Film Thickness*.

3 The coating sample shall meet the requirements of the national standard GB 50212 *Code for Construction of Building Anticorrosive Engineering* Section 9.5, and shall be stored for no less than 7 days; the environmental conditions for the conservation shall be meet the relevant requirements of the current national standard GB/T 9278 *Temperatures and Humidities for Conditioning and Testing of Paint Specimens* related provisions.

4 On the coating sample board, make sampling strips according to the specifications of 150mm×30mm×(1.5–2.5) mm, each 25 strips are a group, and the thickness error shall not be larger than 0.2mm.

F.5.2 The corrosion resistance test of sprayed polyurea materials shall be in accordance with the following requirements:

1 Put the spline in a closed container containing the test medium and soak it at room temperature. The spline shall be in full contact with the medium and the medium concentration shall be kept constant.

2 The age of the soaking period should be 1 month, 3 months, 6 months, and 12 months.

3 After each period of age, first rinse the spline with water, and blot the surface of the spline with filter paper, and leave it at room temperature for 24 hours before cutting the spline.

4 The spline shall be cut into dumbbell I type specifications, and the determination of tensile stress shall meet the requirements of the current national standard GB/T 528 *Rubber, Vulcanized or Thermoplastic—Determination of Tensile Stress-Strain Properties*.

F.5.3 The corrosion resistance test of sprayed polyurea materials shall include the appearance change, tensile strength and elongation of the test piece, and shall be in accordance with the following requirements:

1 The appearance of the test piece shall be observed. The surface of the test piece shall be free from light loss, deformation, erosion, softening and cracks.

2 The test method for the change of tensile strength and elongation of the test piece shall meet the requirements of the current national standard GB/T 528 *Rubber, Vulcanized or Thermoplastic—Determination of Tensile Stress-Strain Properties* and the tensile speed shall be (500±50)mm/min.

3 Take the test data of the average value of 5 test blocks in each group and compare the test data with the original sample; the calculation of the tensile strength and elongation shall meet the requirements of the current national standard GB/T 528 *Rubber, Vulcanized or Thermoplastic—Determination of Tensile Stress-Strain Properties*, the calculation result is a positive value, which indicates an increase in intensity; the calculation result is a negative value, which indicates a decrease in intensity. Calculated data shall be rounded to one decimal place.

F.5.4 The corrosion resistance evaluation standard of sprayed polyurea materials shall be in accordance with the following requirements:

1 The assessment of corrosion resistance level shall be in accordance with those specified in Table F.5.4.

Table F.5.4 Evaluation of corrosion resistance grade

Grade	Change in tensile strength (%)	Elongation change rate (%)	Exterior
Corrosion resistant	≤ 10.0	≤ 10.0	No obvious changes such as light loss, deformation, erosion, softening and cracks
Passable	> 10.0 and ≤ 20.0	> 10.0 and ≤ 20.0	The surface has a slight loss of light, deformation, erosion, softening and other changes
Not resistant	> 20.0	> 20.0	Slight cracks on the surface, severe deformation, obvious erosion, softening and cracks, etc.

2 In the detection index of appearance change, tensile strength and elongation change, where one item does not meet the standard of this grade, the corrosion resistance of the sprayed polyurea material shall be degraded.

F.6 Coating

F.6.1 The evaluation of the corrosion resistance of coatings may be classified according to the resistance to liquids and chemical gases.

F.6.2 The test method for evaluating the liquid resistance of coatings shall be in accordance with the following requirements:

1 The test method in liquids other than water shall meet the requirements of the current national standard GB/T 30648.1 *Paints and Varnishes—Determination of Resistance to Liquids—Part 1: Immersion in Liquids Other than Water Method B*.

2 Partial immersion method may be used for water resistance test, and shall meet the requirements of the current national standard GB/T 30648.2 *Paints and Varnishes—Determination of Resistance to Liquids—Part 2: Water Immersion Method*.

F.6.3 The test method for evaluating the resistance to chemical gases shall be in accordance with the following requirements:

1 Coating sampling shall meet the requirements of the current national standard GB/T 3186 *Paints, Varnishes and Raw Materials for Paints and Varnishes—Sampling*.

2 The preparation of test plates shall meet the requirements of the current national standard GB/T 9271 *Paints and Varnishes—Standard Panels for Testing*, and the size shall be 150mm×100mm×(0.75–1.25)mm.

3 The test method shall comply with the current national standard GB/T 9789 *Metallic and Other Non-Organic Coatings—Sulfur Dioxide Test with General Condensation of Moisture*. The test plate may be placed at the bottom and may be heated and filled with pure water. On the bracket inside the air-tight box with a pressure of (300±10)liters, close the door, pass in 0.2L of sulfur dioxide gas, and raise the temperature in the box to (40±3)°C within 1.5 hours, and maintain 8h, after opening the airtight box for 16h, take out the test plate for inspection. This shall be a test cycle.

4 Cycle test in accordance with regulations. The test time shall be 1 month, 3 months, 6 months and 12 months.

5 After the test is over, the water stain on the test board surface shall be removed with a water absorption test paper, and the surface of the coating shall be observed for blistering or rust.

Subsequently, the test panel shall be left to stand at room temperature for 24 hours to check the coating's discoloration, adhesion and embrittlement assessment indicators.

F.6.4 The assessment method for the level of liquid resistance and chemical gas resistance of coatings shall comply with the requirements of with the current national standard GB/T 30789 *Paints and Varnishes—Evaluation of Degradation of Coatings—Designation of Quantity and Size of Defects and of Intensity of Uniform Changes Inappearance*, and shall be in accordance with those specified in Table F.6.4.

Table F.6.4 Evaluation of coatings' resistance to liquids and chemical gases

Grade	Exterior	Rating
Corrosion-resistant	No loss of light discoloration, blistering, cracking, peeling, rust, etc.	Change level 0, blistering level 0, cracking level 0, peeling level 0, rusting level R_{i_0}
Passable	The surface is slightly matt or discolored, but there are no changes such as blistering, cracking, peeling, rusting, etc., and reduced adhesion	Change ≤ 2 levels, blistering 0 levels, cracking 0 levels, peeling 0 levels, rusting R_{i_0} levels
Not resistant	Defects such as blistering, cracking, peeling, rusting on the surface, and changes in adhesion	Variation > 2 levels, blistering > 0 levels, cracking > 0 levels, peeling > 0 levels, rust $> R_{i_0}$ levels

F.7 Asphalt materials

F.7.1 Asphalt materials may be tested for corrosion resistance using asphalt mortar test blocks and shall be in accordance with the following requirements:

1 Pour the cooked asphalt mortar into a 20mm × 20mm × 20mm pre-buttered test mold, 6 pieces per group, and 1mm to 2mm higher. After cooling to room temperature, the hot asphalt scraper will be used to cut off and smooth out the asphalt mortar which is higher than the test mold. After demoulding, the test block was cured at room temperature for 2 hours, wiped with gauze, and then weighed with a precision balance of 0.01g.

2 Dip the test block into a container with a lid containing the corrosive medium. The bottom surface of the test block shall be elevated and the sides shall be separated. The corrosive medium solution shall be higher than the surface of the test block. Wipe clean and dry in air for 10h.

F.7.2 The corrosion resistance test of asphalt materials shall include the surface appearance of the test block, the change of the appearance of the soaking medium, and the quality change of the test block, and shall be in accordance with the following requirements:

1 Check that the surface of the test block shall be free of cracks, corners, bulging, and loose fluff; the surface of the test block and the immersed corrosive medium shall not have any significant discoloration.

2 Weigh the test block, the mass change rate after soaking shall be calculated according to the following formula:

$$G_{\text{change}} = (G_1 - G_0) / G_0 \times 100 \quad (\text{F.7.2})$$

where, G_{change} —the mass change rate of the test block (%).

G_1 —the average mass (g) of a group of test blocks after soaking, accurate to 0.01g.

G_0 —the mass (g) of the average value of a group of test blocks before soaking, accurate to 0.01g.

The calculation result is a positive value, which indicates the weight gain of the test piece; the calculation result is a negative value, which indicates the weight loss of the test piece.

F.7.3 The evaluation standards for the corrosion resistance of asphalt materials shall meet the following requirements:

1 Evaluation of corrosion resistance grade of asphalt materials shall be in accordance with those specified in Table F.7.3.

Table F.7.3 Evaluation of corrosion resistance grade

Grade	Test block mass change rate (%)	Test block appearance change	Change of corrosive medium
Corrosion-resistant	<0.5	No change or tarnishing only	No change or minimal change
Passable	0.5-1.0	Tarnished, slightly discolored, slightly corroded	Slightly changed
Not resistant	>1.0	Discoloration, bubbles, peeling or cracks	Significant change

2 Among the detection indicators of appearance change, quality change and change of corrosive medium, where one of the indicators does not meet the grade standard, the corrosion resistance of asphalt materials shall be degraded.

Explanation of wording in this standard

1 Words used for different degrees of strictness are explained as follows in order to mark the differences in implementing the requirements of this standard.

1) Words denoting a very strict or mandatory requirement:

"Must" is used for affirmation, "must not" for negation.

2) Words denoting a strict requirement under normal conditions:

"Shall" is used for affirmation; "shall not" for negation.

3) Words denoting a permission of a slight choice or an indication of the most suitable choice when conditions permit:

"Should" is used for affirmation; "should not" for negation.

4) "May" is used to express the option available, sometimes with the conditional permit.

2 "Shall comply with..." or "shall meet the requirements of..." is used in this standard to indicate that it is necessary to comply with the requirements stipulated in other relative standards and codes.

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List of quoted standards

- GB 50212 *Code for Construction of Building Anticorrosive Engineering*
- GB 50300 *Unified Standard for Constructional Quality Acceptance of Building Engineering*
- GB/T 50590 *Technical Code for Anticorrosion Engineering of Vinyl Ester Resins*
- GB/T 528 *Rubber, Vulcanized or Thermoplastic—Determination of Tensile Stress-Strain Properties*
- GB/T 2577 *Test Method for Resin Content of Glass Fiber Reinforced Plastics*
- GB/T 3186 *Paints, Varnishes and Raw Materials for Paints and Varnishes—Sampling*
- GB/T 3854 *Test Method for Hardness of Reinforced Plastics by Means of a Barcol Impresser*
- GB/T 5210 *Paints and Varnishes—Pull-Off Test for Adhesion*
- GB/T 8488 *Acid Resisting Bricks and Tiles*
- GB/T 9271 *Paints and Varnishes—Standard Panels for Testing*
- GB/T 9278 *Temperatures and Humidities for Conditioning and Testing of Paint Specimens*
- GB/T 9789 *Metallic and Other Non-Organic Coatings — Sulfur Dioxide Test with General Condensation of Moisture*
- GB/T 13452.2 *Paints and Varnishes—Determination of Film Thickness*
- GB 18173.1 *Polymer Water-Proof Materials—Part 1: Water-Proof Sheet*
- GB 18243 *Atactic Polypropylene (APP) Modified Bituminous Sheet Materials*
- GB/T 18601 *Specification for Natural Granite for Building Slab*
- GB/T 19250 *Polyurethane Waterproofing Coating*
- GB/T 22789.1 *Plastics—Unplasticized Poly (Vinyl Chloride) Sheets—Types, Dimensions and Characteristics—Part 1: Sheets of Thickness Not Less Than 1mm*
- GB/T 30648.1 *Paints and Varnishes—Determination of Resistance to Liquids—Part 1: Immersion in Liquids Other than Water*
- GB/T 30648.2 *Paints and Varnishes—Determination of Resistance to Liquids—Part 2: Water Immersion Method*
- GB/T 30789 *Paints and Varnishes—Evaluation of Degradation of Coatings—Designation of Quantity and Size of Defects and of Intensity of Uniform Changes Inappearance*
- DL/T 5126 *Test Code on Polymer-Modified Cement Mortar*
- HG/T 3831 *Spray Polyurea for Materials Protection*
- HG/T 20273 *Technical Code for Coating Engineering of Spraying Polyurea Protection Materials*
- JGJ/T 200 *Technical Specification for Spray Polyurea Waterproofing*
- JC/T 424 *Acid and Heat Resisting Bricks*