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**Anchor channel assemblies for building curtain walls**

建筑幕墙用槽式预埋组件

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### 1 Scope

China's national standard for the anchor channel assemblies used to fix curtain walls to a building. It specifies the terms and definitions, the classification and marking, the general provisions, the requirements and the testing. An anchor channel is a length of rolled or cold formed steel section, cast into the concrete slab edge while the frame is being built, into which T-headed bolts can be dropped and slid to any position along its length. That adjustability is why it is used. The structural frame is built to structural tolerances and the facade must be hung to facade tolerances, and the difference has to be absorbed

somewhere; a cast-in channel lets the facade contractor position each bracket where the facade needs it rather than where the concrete happened to end up. The load path is unusual and is what the standard has to address: the channel transfers load to the concrete through its lips and its anchors, in a zone at the slab edge that is congested with reinforcement and close to a free face.

This standard specifies the terms and definitions, classification and marking, general regulations, requirements, test methods, and inspections of trough embedded components for building curtain walls. Inspection rules, product markings and product accompanying documents, packaging, transportation and storage. This standard applies to steel trough embedded components for building curtain walls.

## 2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this document. For undated references, the latest version (including all amendments) applies to this document.

GB/T 93 standard spring washer GB/T

97.1 Flat Washer Class A

GB/T 197-2018 general thread tolerance

GB/T 228.1 Tensile Test of Metallic Materials Part

### 6.5.1 Elongation after fracture and shrinkage of area

6.5.1.1 The elongation and shrinkage of the channel of the channel embedded part after fracture The steel channel of channel embedded parts shall be tested for elongation and reduction of area after fracture. The elongation of the channel embedded part steel channel after fracture shall not be less than 14%, the reduction of area should not be less than 30%.

6.5.1.2 The elongation and reduction of area of the anchor bar of the channel embedded part after fracture The anchor bars of the grooved embedded parts shall be tested for elongation and reduction of area after fracture. The elongation of the anchor bar of the channel embedded part after breaking should not be less than 14%, the reduction of area should not be less than 30%.

6.5.1.3 T-bolt elongation and reduction of area after breaking T-bolts shall be tested for elongation and reduction of area after breaking. The elongation of T-bolt after breaking should not be less than 14%, and the reduction of area It should not be less than 30%.

### 6.5.2 Tensile bearing capacity of T-bolt pairs, tensile bearing capacity of components

**6.5.2.1 Tensile bearing capacity of T-bolt pair** The T-bolt pair shall be subjected to a tensile strength test. The standard value of the tensile bearing capacity test of the T-bolt pair should not be less than the product calibrated T Standard value of tensile bearing capacity of type bolt pair. The calculation of the test standard value shall comply with the provisions of Appendix B.

Note. The test standard value is the standard value obtained during the test of the product.

**6.5.2.2 Tensile capacity of components** Trough-type embedded components should be subjected to component tensile bearing capacity test. The standard value of the component tensile strength test should not be less than the product calibrated component Standard value of tensile capacity. The calculation of the test standard value shall comply with the provisions of Appendix B.

### **6.5.3 Anchorage capacity**

**6.5.3.1 Anchorage tensile capacity** The specimens were pre-embedded in plain concrete specimens with a compressive strength grade of C30 for anchoring tensile bearing capacity test. Anchor tensile capacity The test standard value should not be less than the standard value of the anchor tensile bearing capacity calibrated by the product. The calculation of the test standard value shall comply with B.4.2 and The provisions of Appendix C.

**6.5.3.2 Anchorage vertical shear capacity** The specimens were pre-embedded in plain concrete specimens with a compressive strength grade of C30 for anchoring vertical shear capacity test. Anchor vertical The standard value of the shear capacity test shall not be less than the standard value of the anchored vertical shear capacity calibrated by the product. The calculation of the test standard value should conform to the appendix B.4.2 and Appendix C.

**6.5.3.3 Anchorage parallel shear capacity** The specimens were pre-embedded in plain concrete specimens with a compressive strength grade of C30 for anchoring parallel shear bearing capacity tests. Anchoring parallel The standard value of the shear capacity test shall not be less than the standard value of the anchored parallel shear capacity of the product calibration. The calculation of the test standard value should conform to the appendix B.4.2 and Appendix C.

## **7 Test method**

**7.1 Appearance** Use visual inspection. A rubber hammer should be used to strike the anchor bar for mechanically engaging grooved embedded parts to check for looseness or fall off.

**7.2 Dimensions and allowable deviation** The thread should be inspected with a thread gauge with the same tolerance level as the thread, and the length of the steel groove should be 1mm with an indication error Grade II steel tape measure is used for inspection,

and other sizes are measured with a measuring tool whose graduation value/resolution is not less than 0.02mm or 2' test.

### 7.3 Coating

7.3.1 Appearance and thickness of the coating The appearance of the coating is inspected visually, and the thickness of the coating is in accordance with the provisions of GB/T 4956.

7.3.2 Corrosion resistance of coating The neutral salt spray test of the corrosion resistance of the coating should be carried out in accordance with the provisions of GB/T 10125.

### 7.4 Installation torque

7.4.1 There are 3 sets of test pieces in each group, and the length L of the steel channel of the test pieces is 150mm.

7.4.2 The test principle is shown in Figure

5. The test should be carried out according to the following steps.

a) Install the T-bolt at the position of the anchor bar in the steel channel of the test piece, and apply an initial torque of 0.5T in advance;

b) Load the torque to 1.3T at a rate not greater than 0.4T/s, and then remove the nut after maintaining the load for 1 min;

c) The effect of reloading to 0.5T. 8.2.3.2.2 Randomly draw samples according to the batch size and the corresponding number of samples specified in Table 4, and compare the samples according to the provisions of

7.3.1 respectively This n1 is tested, and the test results should meet the requirements of

6.3 respectively. When the number of unqualified is not greater than the first judgment number Ac1, it is judged This batch of products is qualified and accepted; when the number of unqualified products is not less than the first judgment number Re1, the batch of products is judged to be unqualified. Refuse to accept. When the number of unqualified is between Ac1 and Re1, samples shall be drawn according to the number specified by n2 for the second inspection; two inspections When the total number of unqualified samples in the inspection sample is not greater than the second judgment number Ac2, the item of the batch of products shall be judged as qualified; when the total number of unqualified products is not less than When the second judgment number is Re2, the batch of products is judged to be unqualified.

8.2.3.3 Installation torque The installation torque test should randomly sample 3 sets from the same inspection lot, and carry out the test in accordance with the provisions of 7.4, and the inspection results should meet

6.4 Provisions. When one set of samples is unqualified, a double number of samples should