Glass Curtain Wall 4 performance Test Order

1, Test Equipment

There are static pressure box, anemometer, pressure supply system, pressure gauge, displacement meter, water dripping device, flow meter and so on.

2.Detection of air permeability

First, the test parts are installed on the testing table according to the design requirements. After the installation is completed, the test must be checked, and the test can be carried out after the design meets the design requirements.

2.1 Pressuring: pressuring the specimen with 250pa pressure for a duration of 5min. Then the pressure is reduced to zero, and the test is carried out after the deflection of the specimen is eliminated.

2.2 Press all the pressure levels specified by the table in order to pressurize each time, the pressure time of each stage is no less than 10S, record the value of air permeability through the test under the pressure difference of all levels, and take the measured value under the action of 100Pa as Q.

2.3Determination method: standard state [temperature 293K (20 C); pressure 101.3Kpa (760mmHg); air density under 1.202kg/m3] for fixed part of air permeabilityq(m3/h):

$q=(293/101.3)\times(q'\cdot P/T)\times(1/4.65)$

Pressure value of P test room Kpa

T: Test room air temperature K

2.4The air permeability of the unit seam length of the curtain wall under the standard state of calculation q0(m3/h·m)Graded index values of air permeability for fixed part of the curtain wall

Pressurized sequence table unit: Pa

Pressurization sequence	1	2	3	4	5	6	7	8	9	10	11	12	13
Detection pressure	10	20	30	50	70	100	150	100	70	50	30	20	10

3. Detection of rainwater leakage performance

First, the test parts are installed on the testing table according to the design requirements. After the installation is completed, the test must be checked, and the test can be carried out after the design meets the design requirements.

3.1Pressuring: pressuring the specimen with the pressure of 250Pa, and continuing to be 5min. Then the pressure is reduced to zero, and the test is carried out after the deflection of the specimen is eliminated.

3.2.Water spray: spray the whole sample evenly with the

amount of water 4L/m2.min, until the test is finished. The temperature of the water should be within the range of 8-25.

3.3Pressure: at the same time, at the same time, according to the pressure level of the specified pressure. The duration of each level of pressure is 10min until there is a serious leakage in the indoor side of the specimen. The pressure forms are divided into two kinds: stability and fluctuation. See Table 1 and table 2. The fluctuation range is 3/5 with stable pressure, and the fluctuation period is 3S.

Table 1 Unit: Pa

Pressurization sequence	1	2	3	4	5	6	7	8	9
Stable pressure	100	150	250	350	500	700	1000	1600	2500

Table 2 Unit: Pa

Pressurization sequence		1	2	3	4	5	6	7	8	9
Wave	Upper limit value	100	150	250	350	500	700	1000	1600	2500

压	average value	70	110	180	250	350	500	700	1100	1750
	Lower limit value	40	70	110	150	200	300	400	600	1000

3.4 Record: the pressure difference, the leakage position and the leakage condition of the leakage.

3.5 Judgment: the pressure difference under the serious leakage of the specimen is the basis for judging the leakage performance of the rainwater. The first grade pressure difference of the pressure difference is used as the grading index value of the rainwater leakage performance of the specimen.

4 Test of wind pressure deformation performance

First, the test parts are installed on the testing table according to the design requirements. After the installation is completed, the verification must be carried out. After confirming the requirements of the design, the test can be carried out.

4.1Preparation: the displacement measuring instrument is installed on the position where the test points are required to be arranged. The measurement point is as follows: the middle point of the force rod is arranged in the middle point position

of the rod, and the end points of both sides are arranged at the middle point direction of the points at the end of the rod 10mm. The center position of the mosaic part is located at the intersection point of the two diagonal lines. The ends on both sides are arranged in the direction of the length of the mosaic part to the middle point, and from the 10mm edge of the mosaic part.

4.2 Preparation of pressure: loading 5min with the pressure of 250Pa, as the preparation of pressure, after the release of the stationary, record the initial displacement of the measured points. The preparation pressure is P0.

4.3 Deformation detection: Advanced positive pressure detection, and then negative pressure detection. The test pressure is divided up and down, the lifting pressure of each level is not more than 250Pa, and the time of each stage pressure is not less than 10S. The pressure rises and drops until the deflection value of any force member reaches L/360. The surface normal displacement and the pressure value of P0 at L/360 are recorded at each level of pressure difference.

4.4 Repeated loading test: the duration of fluctuating pressure is not less than 60S, and the frequency of fluctuation is not less than 10 times. When the record had not been impaired

or damaged, the wave peak was measured at each level, and the amplitude of the wave was 1/2. The maximum detection pressure of each level is P0.

4.5Safety inspection: such as repeated load detection does not appear dysfunction or damage, for safety testing, the test pressure rose to P3, then dropped to 0, and then to -P3, and then rose to 0, lifting pressure not less than 1S, the pressure of the duration of not less than 3S, when necessary to sustainable 10S. Then the dysfunction, residual deformation, or damage and location are recorded. P3=2 P1, the relative deflection is less than L/180. If the absolute value of the deflection exceeds 20mm, the value of the pressure corresponding to the 20mm is P3.

4.6 Finishing method numerical methods: detection of surface normal deflection bar by the force deformation of the intermediate point for detection, press type calculation: fmax= (b-b0) - (a-a0) + (c-c0)]/2

In the formula: A0, B0, C0 - the steady initial reading value after the pressuring, mm,

A, B, C - a stable reading value for the pressure action of a certain level, mm,

Fmax - the surface normal deflection value for the

middle test point, mm.

5 Deformation performance detection in curtain wall

5.1 Performance index classification: the in-plane deformation performance of the curtain wall characterizing the performance of all the curtain walls which should be maintained after the deformation of the forced curtain wall between the buildings.

5.2 Method of detection: pseudo static method was used.

5.3 Testing device: at present, the loading mode of the testing device has two kinds of continuous parallelogram and symmetrical deformation of the specimen. The former uses a specially loaded frame, and the latter supports the active beam by using the frame of the pressure box. The arbitration test is usually carried out in the first loading mode.

5.4After the test meets the requirements of the test, the test value and the test report are arranged according to the standard of the national standard.

5.5 When the deformation performance in the plane is required to meet the requirement of deformation, the glass and aluminum plate of the curtain wall are not damaged, and the opening part can still be opened normally.