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**Precast concrete products — General rules
for methods of performance test**

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Precast Concrete Standard Committee (JPCC)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently JIS A 5363 : 2004 has been replaced with this Standard.

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Precast concrete products—General rules for methods of performance test

1 Scope

This Japanese Industrial Standard specifies the general matters of performance testing for precast concrete products (hereafter referred to as "products"), which is one of the methods of verifying the performance of the said products. This Standard shall not be applied to individual concrete products for buildings which are specified in separate Japanese Industrial Standards.

This Standard does not restrict use of other suitable test methods, and shall be applied to the tests for the type inspection (classification of performance test), the final inspection, and the delivery inspection of a product, as appropriate.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS A 0203 *Concrete terminology*

JIS B 7505-1 *Aneroid pressure gauges—Part 1: Bourdon tube pressure gauges*

JIS B 7721 *Tension/compression testing machines—Verification and calibration of the force-measuring system*

3 Terms and definitions

For the purposes of this Standard, the terms and definitions given in JIS A 0203 and the following apply.

3.1 bending test of a product

a test method in which a product is subjected to a direct loading under such conditions that bending fracture is caused

3.2 shear test of a product

a test method in which a product is subjected to direct loading under such conditions that shearing fracture is caused

3.3 compression test of a product

a test method in which a product is subjected to direct loading under such conditions that compression fracture in the axial direction of the product is caused

3.4 internal pressure test of a product

a test method in which the hollow part of a product is filled with water or the like, an internal pressure is applied, and the internal pressure strength of the product is de-

terminated and the presence of leakage of water is examined

4 Classification of performance test methods of products

Classification of performance test methods of products shall be as shown in table 1.

Table 1 Classification of performance test methods of products

Classification of performance test		Shape of a component	Loading method
External pressure test method	Bending test method	Beam component	Simple beam form loading The method in which a component is supported at both ends like a simple beam, and subjected to two-point loading at its approximate centre (see figure 1). Cantilever beam form loading The method in which one end of a component is fixed, and load is applied to another end (see figure 2).
		Plate-type component	Simple beam form loading The method in which a component is supported at both ends like a simple beam, and subjected to one-point loading at its approximate centre (see figure 3a and figure 3b). Cantilever beam form loading The method in which one end of a component is fixed, and linear load is applied to a part other than this fixed end (see figure 4).
		Cylindrical component	One-support one-point loading The method in which a cylindrical material is linearly supported along the bottom in the length direction, and linear load in the length direction is applied onto its top (see figure 5).
	Shear test method	Beam component	Simple beam form loading The method in which a component is supported at both ends like a simple beam, and subjected to two-point loading at its approximate centre (see figure 6). Overhanging beam form loading The method in which a component is supported at two points with one of its ends overhanging, and subjected to two-point loading, one point being on the overhanging end and the other on a point between the fulcrums (see figure 7).
	Compression test method	Cylindrical material etc.	Axial compression loading The method in which a component is installed perpendicularly, and the compressive force is applied in the axial direction of the component (see figure 8).
Internal pressure test method		Cylindrical material or a cube-type rigid frame	The method in which the hollow part of a cylindrical material or a cube-type rigid frame is filled with water, and a test hydraulic pressure is applied (see figure 9 and figure 10).

5 Performance tests of a product

An external pressure test shall be carried out using a testing machine of Grade 1 or better specified in JIS B 7721, or a testing machine having the allowance at least equivalent thereto. An internal pressure test shall be carried out using a pressure gauge of Class 1.6 or better specified in JIS B 7505-1.

5.1 External pressure tests of a product

5.1.1 Bending test of a product

The bending test of a product is carried out for the purpose of examining the bending strength of a certain part of a product. The examination items are the cracking load