

# JSCE-E 703-2010

## Test method for the flexibility of metal sheath for prestressed concrete (draft)

### 1 Scope

This standard specifies the requirements for carrying out the test for the flexibility of a metal sheath to form a duct to arrange inner cables of prestressed concrete structures. The metal sheath considered in this standard should use cold rolled steel plate, zinc-coated steel plate or a metal material with performance not lower than that of those.

### 2 References

By being cited herein, the following standards constitute part of the definition of this standard. This standard is based on the latest versions of these cited documents.

JIS G 3109 Steel bars for prestressed concrete

JIS G 3536 Steel wires and strands for prestressed concrete

### 3 Definitions

The following terminology is used in this standard:

- a) Flexibility of sheath: flexural deformability of the sheath in the range with no leak of cement paste
- b) Sheath specimen: specimen made by cutting the sheath

### 4 Outline of test

#### 4.1 Purpose of test

This test method is used to confirm the flexibility of a metal sheath used for PC steel bars specified by JIS G 3109, and PC steel wires and strands specified by JIS G 3536.

#### 4.2 Conditions of testing room

The standard temperature of the testing room is  $23 \pm 5$  °C unless otherwise specified. The relative humidity is not specified.

#### 4.3 Specimen

The number of sheath specimens is three unless otherwise specified. The length of the sheath specimen is at least 3 m.

### 5 Test method

a) Bend the sheath specimen with a curvature radius of 30 times the inner diameter of the sheath and set it in a vertical plane (Fig.1).

b) Pour cement paste<sup>(1)</sup> with a water-cement ratio 50% from the end of the sheath specimen until it is possible to confirm the cement paste surface. Five minutes after completing the pouring of cement paste, check if there is a leak of cement paste and water. The temperature of poured cement paste is not specified.

**Note (1):** Ordinary Portland cement is used for the cement of the cement paste. No additive is used for the cement paste. Cement paste should be mixed by the same method as for the grout. The cement paste should be poured into the sheath specimen promptly after mixing.

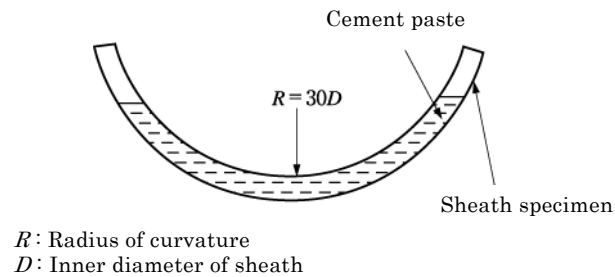


Fig.1 Outline of test

## 6 Report

### 6.1 Compulsory reporting

The report must provide the following information:

- a) Date of test
- b) Material, inner diameter, outer diameter, shape and brand of sheath
- c) Number of sheath specimens
- d) Temperature of testing room and poured cement paste at pouring
- e) Quality of cement paste
- f) Condition of leak of cement paste and water

### 6.2 As-needed reporting

The report should provide the following information where relevant:

- a) Name of testing organization
- b) Relative humidity of testing room