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(ISO 10466 : 1997)

Plastics piping systems— Glass-reinforced thermosetting plastics (GRP) pipes— Test method to prove the resistance to initial ring deflection

ICS 23.040.20

Descriptors : thermosetting polymers, plastics, reinforcing materials, glass, pipework systems, pipes, fracture, strength of materials

Reference number : **JIS K 7038 : 1998 (E)**

Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

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JIS K 7038 : 1998
(ISO 10466 : 1997)

Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Test method to prove the resistance to initial ring deflection

Introduction This Japanese Industrial Standard has been prepared based on **ISO 10466**, *Plastics piping systems —Glass-reinforced thermosetting plastics (GRP) pipes—Test method to prove the resistance to initial ring deflection* without changing the technical contents.

1 Scope

This Japanese Industrial Standard specifies a method for testing the ability of glass-reinforced thermosetting plastics (GRP) pipes to withstand specified levels of initial ring deflection without displaying surface damage and/or structural failure.

2 Definitions

For the purposes of this Standard, the following definitions apply:

2.1 vertical deflection (y): The vertical change in diameter of a pipe in a horizontal position in response to a vertical compressive load (see **7.3**).

It is expressed in metres.

2.2 relative vertical deflection (y/d_m): The ratio of the vertical deflection y (see **2.1**) to the mean diameter of the pipe d_m (see **2.3**).

2.3 mean diameter (d_m): The diameter of the circle corresponding with the middle of the pipe wall cross section.

It is given, in metres, by either of the following equations:

$$d_m = d_i + e$$

$$d_m = d_e - e$$

where:

d_i is the average of the measured internal diameters (see **5.3.2**), in metres;

d_e is the average of the measured external diameters (see **5.3.2**), in metres;

e is the average of the measured wall thicknesses of the pipe (see **5.3.1**), in metres.

2.4 visual evidence of structural failure: Unless otherwise specified by the referring standard, a failure apparent in any of the following forms (see **7.3**):

- interlaminar separation;
- tensile failure of the glass fibre reinforcement;
- buckling of the pipe wall;
- if applicable, separation of the thermoplastic liner from the structural wall.