
**Plastics piping systems — Glass-reinforced
thermosetting plastics (GRP) pipes —
Determination of initial specific ring
stiffness**

*Systèmes de canalisation en matières plastiques — Tubes en plastiques
thermodurcissables renforcés de verre (PRV) — Détermination de la rigidité
annulaire spécifique initiale*



Foreword

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International Standard ISO 7685 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 6, *Reinforced plastics pipes and fittings for all applications*, in collaboration with CEN/TC 155, *Plastics piping systems and ducting systems*.

This International Standard is one of a series of standards on test methods for plastics piping systems and ducting systems.

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Printed in Switzerland

Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Determination of initial specific ring stiffness

1 Scope

This International Standard specifies methods for determining the initial specific ring stiffness of glass-reinforced thermosetting plastics (GRP) pipes. Two methods are given, and within the specified deflection limits each is equally valid and may be used for any diameter.

2 Definitions

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

2.1

compressive load (F)

load applied to a pipe to cause a diametric deflection

It is expressed in newtons.

2.2

vertical deflection (y)

vertical change in diameter of a pipe in a horizontal position in response to a vertical compressive load (see 2.1)

It is expressed in metres.

2.3

relative vertical deflection (y/d_m)

ratio of the vertical deflection y (see 2.2) to the mean diameter of the pipe d_m (see 2.4)

2.4

mean diameter (d_m)

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 5.3.3), in metres;

d_e is the average of the measured external diameters (see 5.3.3), in metres;

e is the average of the measured wall thicknesses of the pipe (see 5.3.2), in metres.