



National Standards Authority of Ireland

IRISH STANDARD

I.S. CEN/TS 14807:2004

ICS 23.040.01
83.140.99

**PLASTICS PIPING SYSTEMS -
GLASS-REINFORCED THERMOSETTING
PLASTICS
(GRP) BASED ON UNSATURATED
POLYESTER RESIN (UP) - GUIDANCE FOR
THE STRUCTURAL ANALYSIS OF BURIED
GRP-UP PIPELINES**

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*This Irish Standard was
published under the
authority of the National
Standards Authority of
Ireland
and comes into effect on:
November 26, 2004*

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TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 14807

October 2004

ICS 23.040.01; 83.140.99

English version

Plastics piping systems - Glass-reinforced thermosetting plastics (GRP) based on unsaturated polyester resin (UP) - Guidance for the structural analysis of buried GRP-UP pipelines

Systèmes de canalisations en plastique - Plastiques thermodurcissables renforcés à la fibre de verre (GRP) à base de résine de polyester non saturé (UP) - Guide pour l'analyse structurelle des canalisations en GRP-UP

Kunststoff-Rohrleitungssysteme - Glasfaserverstärkte duroplastische Kunststoffe (GFK) auf der Basis von ungesättigtem Polyesterharz (UP) - Anleitung für die Strukturanalyse von erdverlegten GFK-UP-Rohrleitungen

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CEN/TS 14807:2004 (E)

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Foreword

This document (CEN/TS 14807:2004), has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this CEN Technical Specification: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

This specification is a supporting standard for system standards covering plastics piping systems using glass-reinforced thermosetting plastics based on Polyester resin (GRP). System Standards are consistent with standards on general functional requirements.

NOTE: In addition to this document it is also intended that separate European Technical Specifications be published covering practices for installation, and assessment of conformity.

CEN/TS 14807:2004 (E)

Introduction

The purpose of this document is to provide guidance for the selection of a suitable structural analysis procedure for buried glass-reinforced thermosetting plastics (GRP) pipes. The design approach should be founded on accepted engineering principles and have been demonstrated through field experience. The procedure should satisfy the requirements of GRP pipes and should provide dependable long-term performance.

The limiting performance criteria for buried glass-reinforced thermosetting plastics (GRP) pipes is different than other pipe products, including thermoplastics pipes. Consequently, any recommendations on the use of GRP products must take these differences into consideration. Additionally, the method of structural analysis must accommodate these limiting performance criteria, so guidance on suitable design limits are given. Any structural analysis procedure may be used provided it includes the assessment of short and long-term deflection and buckling resistance. Established structural analysis procedures, although found satisfactory for other materials, may not meet the needs of GRP.

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