

STN	Zariadenia a príslušenstvo na LPG Kompozitné potrubia na použitie LPG v kvapalnej fáze a v plynnej fáze pri tlaku nasýtených pár Návrh a výroba	STN EN 17613 07 8635
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LPG equipment and accessories - Composite piping for use with LPG in liquid phase and vapour pressure phase - Design and manufacture

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

LPG equipment and accessories - Composite piping for use
with LPG in liquid phase and vapour pressure phase -
Design and manufacture

Équipements pour gaz de pétrole liquéfié et leurs
accessoires - Canalisations composites pour GPL en
phase liquide et phase vapeur - Conception et
fabrication

Flüssiggas-Geräte und Ausrüstungsteile - Verrohrung
aus Verbundwerkstoffen zum Einsatz mit LPG in der
Flüssig- und Gasdruck-Phase - Auslegung und
Herstellung

This European Standard was approved by CEN on 22 May 2022.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 17613:2022) has been prepared by Technical Committee CEN/TC 286 “LPG equipment and accessories”, the secretariat of which is held by NSAI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2023, and conflicting national standards shall be withdrawn at the latest by February 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Introduction

This document calls for the use of substances and procedures that may be injurious to health and/or the environment if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations at any stage.

This document is intended for users who take on the responsibility for the manufacturing of composite pipe.

Protection of the environment is a key political issue in Europe and elsewhere. For CEN/TC 286 this is covered in CEN/TS 16765 [1] and this Technical Specification should be read in conjunction with this document. This document provides guidance on the environmental aspects to be considered regarding equipment and accessories produced for the LPG industry and the following is addressed:

- a) design;
- b) manufacture;
- c) packaging;
- d) use and operation; and
- e) disposal.

It is recommended that manufacturers develop an environmental management policy. For guidance see EN ISO 14004 [2]. It has been assumed in the drafting of this document that the execution of its provisions is entrusted to appropriately qualified and experienced people.

All pressures are gauge unless otherwise stated.

NOTE This document uses measurement of material properties, dimensions and pressures. All such measurements are subject to a degree of uncertainty due to tolerances in measuring equipment, etc. It could be beneficial to refer to the leaflet "measurement uncertainty leaflet (SP INFO 2000 27 uncertainty.pdf)" [9].

1 Scope

This document specifies requirements for the design, manufacture and testing of composite pipe for use with LPG in liquid phase and vapour pressure phase.

This document is applicable to LPG composite pipe having a maximum allowable pressure of less than or equal to 25 bar.

This document applies to pipe made from thermoplastics, which can include some degree of reinforcement.

It does not apply to fibre reinforced thermosets, commonly referred to as glass fibre reinforced plastic (GRP), nor rigid metals or corrugated metal pipe or hoses to EN ISO 10380 [6].

For the purpose of this document, composite pipe refers to the design requirements below:

- a) Design 1: PE-based thick-walled pipe with multi-layer design without additional reinforcement than the wall thickness of the PE;
- b) Design 2: Nylon-based multi-layer design with a polyester or aramid braid for reinforcement.

NOTE For installation of composite pipework systems, see EN 16125.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 549, *Rubber materials for seals and diaphragms for gas appliances and gas equipment*

EN 1555-1, *Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 1: General*

EN 1555-2, *Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 2: Pipes*

EN 1555-3, *Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 3: Fittings*

EN 1555-4, *Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 4: Valves*

EN 1555-5, *Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 5: Fitness for purpose of the system*

EN 10088-1, *Stainless steels - Part 1: List of stainless steels*

EN 14125:2013, *Thermoplastic and flexible metal pipework for underground installation at petrol filling stations*

EN 14427:2022, *LPG equipment and accessories - Transportable refillable fully wrapped composite cylinders for LPG - Design and construction*

CEN/TS 16769, *LPG equipment and accessories - Terminology*

EN 60243-2, *Electric strength of insulating materials - Test methods - Part 2: Additional requirements for tests using direct voltage*

CLC/TR 60079-32-1, *Explosive atmospheres - Part 32-1: Electrostatic hazards, guidance*

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EN ISO 8031, *Rubber and plastics hoses and hose assemblies - Determination of electrical resistance and conductivity (ISO 8031)*

EN ISO 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids - Determination of the resistance to internal pressure - Part 1: General method (ISO 1167-1)*

EN ISO 1167-2, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids - Determination of the resistance to internal pressure - Part 2: Preparation of pipe test pieces (ISO 1167-2)*

EN ISO 1167-3, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids - Determination of the resistance to internal pressure - Part 3: Preparation of components (ISO 1167-3)*

EN ISO 1167-4, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids - Determination of the resistance to internal pressure - Part 4: Preparation of assemblies (ISO 1167-4)*

ISO 11922-1, *Thermoplastics pipes for the conveyance of fluids — Dimensions and tolerances — Part 1: Metric series*

ISO 15105-2, *Plastics — Film and sheeting — Determination of gas-transmission rate — Part 2: Equal-pressure method*

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