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English Version

Corrugated metal hose assemblies for pressure applications

Tuyauteries métalliques flexibles onduleuses pour applications sous pression

Gewellte Metallschlauchleitungen für Druckanwendungen

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

This document (prEN 14585-1:2022) has been prepared by Technical Committee CEN/TC 342 “Metal hose, hose assemblies, bellows and expansion joints”, the secretariat of which is held by SNV.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 14585-1:2006, CEN/TR 14585-2:2006, CEN/TR 14585-3:2017.

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2014/68/EU [1].

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This standard has been produced to address the specific needs of corrugated metal hose assemblies for pressure applications. For applications outside the scope of EU Directive 2014/68/EU, refer to EN ISO 10380:2012.

Introduction

Corrugated metal hose assemblies are used as components in piping.

The requirements of this standard impact designers, manufacturers, suppliers and importers of corrugated metal hose assemblies for pressure applications.

The unique nature of a corrugated metal hose assembly is characterized by:

- the opposing requirements of pressure resistance and flexibility;
- the interactive role of its pressure bearing parts: corrugated metal hose, braid, end fittings and its permanent joints.

As a general rule PED [1] Annex I, Clause 2.2.2 limits the experimental design method for piping to $PS \cdot DN$ less than 3000. Validation tests shall however support design of corrugated metal hose assemblies for all practically achievable values of $PS \cdot DN$.

Regarding sound engineering practice (SEP), the manufacturer is responsible for its application based on relevant standards or other professional codes. Corrugated metal hose assemblies according to SEP are to be designed, manufactured, verified and delivered with instructions for use in order to ensure their safety during their intended life, when used in foreseeable or reasonably foreseeable conditions.

NOTE 1 EN ISO 10380:2012 or relevant professional codes answer sound engineering practice requirements.

NOTE 2 See also PED Guidelines I-01 [5] and I-09 [6].

For corrugated metal hose assemblies designed and manufactured according to this European Standard, the risk analysis is already undertaken, see Annex E.

1 Scope

This document specifies the requirements for design, manufacture and installation of corrugated metal hose assemblies for pressure applications, i.e. maximum allowable pressure PS greater than 0,5 bar.

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 764-4:2014, *Pressure equipment - Part 4: Establishment of technical delivery conditions for metallic materials*

EN 764-5:2014, *Pressure equipment - Part 5: Inspection documentation of metallic materials and compliance with the material specification*

EN 1092-1:2018, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*

EN 1562:2019, *Founding - Malleable cast irons*

EN 1591-1:2013, *Flanges and their joints - Design rules for gasketed circular flange connections - Part 1: Calculation*

EN 1593:1999¹, *Non destructive testing — Leak testing — Bubble emission techniques*

EN 1652:1997, *Copper and copper alloys - Plate, sheet, strip and circles for general purposes*

EN 1653:1997², *Copper and copper alloys — Plate, sheet and circles for boilers, pressure vessels and hot water storage units*

EN 1779:1999³, *Non destructive testing — Leak testing – Criteria for method and technique selection*

EN 1982:2017, *Copper and copper alloys - Ingots and castings*

EN ISO 6892-1:2019, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature (ISO 6892-1:2019)*

EN ISO 7369:2020, *Pipework - Metal hoses and hose assemblies - Vocabulary (ISO 7369:2020)*

EN ISO 9445-1:2010, *Continuously cold-rolled stainless steel - Tolerances on dimensions and form - Part 1: Narrow strip and cut lengths (ISO 9445-1:2009)*

EN ISO 9445-2:2010, *Continuously cold-rolled stainless steel - Tolerances on dimensions and form - Part 2: Wide strip and plate/sheet (ISO 9445-2:2009)*

¹ Document impacted by A1:2003.

² Document impacted by A1:2000.

³ Document impacted by A1:2003.