

Pipework - Corrugated metal hoses and hose assemblies (ISO 10380:2012)

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English Version

**Pipework - Corrugated metal hoses and hose assemblies (ISO
10380:2012)**

Tuyauteries - Tuyaux et tuyauteries métalliques flexibles
onduleux (ISO 10380:2012)

Rohrleitungen - Gewellte Metallschläuche und
Metallschlauchleitungen (ISO 10380:2012)

This European Standard was approved by CEN on 30 September 2012.

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Foreword

This document (EN ISO 10380:2012) has been prepared by Technical Committee CEN/TC 342 "Metal hoses, hose assemblies, bellows and expansion joints", the secretariat of which is held by SNV, in collaboration with Technical Committee ISO/TC 5 "Ferrous metal pipes and metallic fittings".

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of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

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

This document supersedes EN ISO 10380:2003.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

It was decided to produce an International Standard under the Vienna Agreement on technical cooperation between ISO and the European Committee for Standardization (CEN) in order to maintain a unique EN ISO document.

The major changes in this revision of this International Standard are the following:

- update of the structure of the International Standard;
- update of the test and performance requirements to reflect the practice of the industry at the time of publication;
- introduction of an evaluation of conformity and a system of certification.

This International Standard is a base standard for corrugated metal hoses and hose assemblies for general purpose.

Corrugated metal hoses and metal hose assemblies conforming to all aspects of this International Standard are considered to be designed and manufactured to sound engineering practice.

The requirements of this International Standard are of importance to designers, manufacturers, users, suppliers and importers of corrugated metal hoses.

Non-permanent, detachable connections between hoses and fittings are available in the market. Their design is not covered by this International Standard.

Pipework — Corrugated metal hoses and hose assemblies

1 Scope

This International Standard specifies the minimum requirements for the design, manufacture, testing and installation of corrugated metal hose and metal hose assemblies.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 6208, *Nickel and nickel alloy plate, sheet and strip*

ISO 9328-7, *Steel flat products for pressure purposes — Technical delivery conditions — Part 7: Stainless steels*

ISO 9723, *Nickel and nickel alloy bars*

ISO 9724, *Nickel and nickel alloy wire and drawing stock*

ISO 13585, *Brazing — Qualification test of brazers and brazing operators*

ISO 15614-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys*

ISO 16143-3, *Stainless steels for general purposes — Part 3: Wire*

EN 287-1, *Qualification test of welders — Fusion welding — Part 1: Steels*

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

EN 1779, *Non-destructive testing — Leak testing — Criteria for method and technique selection*

EN 10028-7, *Flat products made of steels for pressure purposes — Part 7: Stainless steels*

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

EN 10088-3, *Stainless steels — Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes*

EN 10204, *Metallic products — Types of inspection documents*

EN 13133, *Brazing — Brazer approval*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

corrugated metal hose

pressure-tight hose made from tube or from strip, with corrugations, helical or annular to the axis of the hose, made by deforming the metal, its flexibility being obtained by bending the corrugations

NOTE 1 Classified by material, DN, PS at 20° C, bend radius and lifetime.

NOTE 2 In this International Standard, helical is designated “h” and annular is designated “a”.

3.2

nominal size

DN

<for components of a pipework system> alphanumeric designation of size comprising the letters DN followed by a dimensionless whole number which is indirectly related to the physical size, in millimetres, of the bore or the outside diameter of the end connections, and is used as a reference

NOTE 1 This defined number does not represent a measurable value and cannot be used for calculation purposes except where specified in the relevant standard.

NOTE 2 Adapted from ISO 6708.

NOTE 3 Adapted from ISO 7369:2004, definition 4.1.5.

3.3

strand

group of parallel wires that are woven together to form a single layer of braid

3.4

braid pitch

distance measured parallel to the axis of the braid for one complete turn or revolution of a strand

3.5

braided braid

braid that is manufactured from previously braided strands

3.6

metal hose assembly

assembly of a corrugated metal hose with its end fittings subjected to internal or external pressure

See Figure 1.