

Cryogenic vessels — Hoses

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National foreword

This British Standard was published by BSI. It is the UK implementation of ISO 21012:2006.

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A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 21012 was prepared by Technical Committee ISO/TC 220, *Cryogenic vessels*.

Cryogenic vessels — Hoses

1 Scope

This International Standard gives design, construction, type and production testing, and marking requirements for non-insulated cryogenic flexible hoses used for the transfer of cryogenic fluids within the following range of operating conditions:

- working temperature: from $-270\text{ }^{\circ}\text{C}$ to $-65\text{ }^{\circ}\text{C}$;
- nominal size (DN): from 10 to 100.

End fittings for mounting of any couplings are within the scope of this International Standard, but the couplings are subject to other standards.

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 7369, *Pipework — Metal hoses and hose assemblies — Vocabulary*

ISO 10806:2003, *Pipework — Fittings for corrugated metal hoses*

ISO 21010, *Cryogenic vessels — Gas/materials compatibility*

ISO 21028-1, *Cryogenic vessels — Toughness requirements for materials at cryogenic temperature — Part 1: Temperatures below $-80\text{ }^{\circ}\text{C}$*

ISO 23208, *Cryogenic vessels — Cleanliness for cryogenic service*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7369 and the following apply.

3.1

hose

flexible leak-tight inner tube of either corrugated metal, elastomer or plastic

3.2

braid

layer, or layers, of cylindrically woven wires covering the hose and permanently attached to the flexible hose assembly end fittings, serving the function of restraining the flexible hose against elongation

3.3

protection coil or cover

outer coil or cover fitted to protect the main hose and braid against damage and abrasion