INTERNATIONAL STANDARD

ISO 3821

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Gas welding equipment — Rubber hoses for welding, cutting and allied processes

Matériel de soudage aux gaz — Tuyaux souples en caoutchouc pour le soudage, le coupage et les techniques connexes

Reference number
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Contents

Page

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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 3821 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 8, *Equipment for gas welding, cutting and allied processes*.

This fourth edition cancels and replaces the third edition (ISO 3821:1998), which has been technically and editorially revised.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 8 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

Gas welding equipment — Rubber hoses for welding, cutting and allied processes

1 Scope

This International Standard specifies requirements for rubber hoses (including twin hoses) for welding, cutting and allied processes.

This International Standard specifies requirements for rubber hoses for normal duty of 2 MPa (20 bar) and light duty [limited to hoses for maximum working pressure of 1 MPa (10 bar) and with bore up to and including 6,3 mm].

This International Standard applies to hoses operated at temperatures −20 °C to +60 °C and used in:

— gas welding and cutting;

— arc welding under the protection of an inert or active gas;

— processes allied to welding and cutting, in particular, heating, brazing, and metallization.

This International Standard applies neither to thermoplastics hoses nor to hoses used for high pressure [>0,15 MPa (>1,5 bar)] acetylene.

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 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 1307:2006, *Rubber and plastics hoses — Hose sizes, minimum and maximum inside diameters, and tolerances on cut-to-length hoses*

ISO 1402, *Rubber and plastics hoses and hose assemblies — Hydrostatic testing*

ISO 1746, *Rubber or plastics hoses and tubing — Bending tests*

ISO 1817, *Rubber, vulcanized — Determination of the effect of liquids*

ISO 4080, *Rubber and plastics hoses and hose assemblies — Determination of permeability to gas*

ISO 4671, *Rubber and plastics hoses and hose assemblies — Methods of measurement of the dimensions of hoses and the lengths of hose assemblies*

ISO 4672:1997, *Rubber and plastics hoses — Sub-ambient temperature flexibility tests*

ISO 7326:2006, *Rubber and plastics hoses — Assessment of ozone resistance under static conditions*

ISO 8033:2006, *Rubber and plastics hoses — Determination of adhesion between components*

ISO 8330, *Rubber and plastics hoses and hose assemblies — Vocabulary*

ISO 11114-3, *Transportable gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 3: Autogenous ignition test in oxygen atmosphere*

ISO 23529, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8330 and the following apply.

3.1
twin hose
two normal rubber hoses joined together longitudinally

3.2
universal fuel gas hose
hoses which can be used for all fuel gases except fluxed fuel gas

NOTE Fuel gases are listed in Table 4.

3.3
flux fuel gas hose
hose suitable for fuel gas containing a flux

4 Abbreviated terms

For the purposes of this document, the following abbreviations apply.

LPG liquefied petroleum gases

MPS methylacetylene-propadiene mixtures

5 Application

Hoses shall only be used for the gas service for which they are identified (see 10.2).

6 Hose designation

The hoses covered by this International Standard are designated using the following information:

a) nominal bore, see Table 1;

b) light or normal duty (pressure rating), see Table 3;

c) colour and marking (gas service), see Table 4.

EXAMPLE 1 6,3 mm, light duty.

EXAMPLE 2 10 mm, normal duty.

EXAMPLE 3 6,3 mm, light duty, FLUX.

