

INTERNATIONAL STANDARD

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Gas welding equipment — Specification for hose assemblies for equipment for welding, cutting and allied processes

*Matériel de soudage au gaz — Spécifications relatives aux assemblages
de tuyaux souples sur les douilles porte-tuyau pour matériel de soudage,
coupage et techniques connexes*



Reference number
ISO 8207:1996(E)

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.

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.

International Standard ISO 8207 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 8, *Equipment for gas welding, cutting and allied processes*.

Annex A of this International Standard is for information only.

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Gas welding equipment — Specification for hose assemblies for equipment for welding, cutting and allied processes

1 Scope

This International Standard specifies performance and test requirements of hose assemblies using rubber hose, if supplied in assembled condition for equipment for gas welding, cutting and allied processes.

This International Standard is not applicable to hose assemblies upstream of the regulators.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3253:1975, *Hose connections for equipment for welding, cutting and related processes.*

ISO 3821:1992, *Welding — Rubber hoses for welding, cutting and allied processes.*

ISO 9090:1989, *Gas tightness of equipment for gas welding and allied processes.*

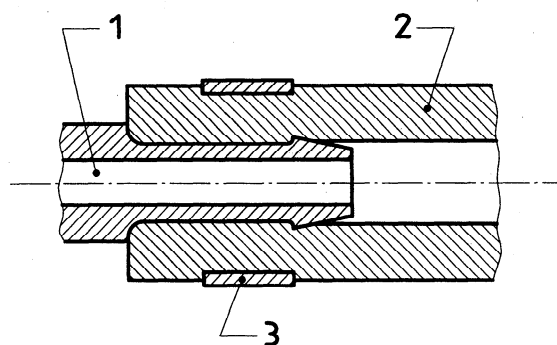
ISO 9539:1988, *Materials for equipment used in gas welding, cutting and allied processes.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 hose assembly: Assembly consisting of a hose tail inserted into the end of a hose and secured by a suitable hose clamp.

Figure 1 shows a typical hose assembly.



Key

- 1) hose tail
- 2) hose
- 3) hose clamp

Figure 1 — Typical hose assembly

3.2 hose tail: End of a coupling device that is inserted into a hose.

3.3 hose clamp: Device that secures the hose to the hose tail.

4 Construction

4.1 Materials

Hose connections used in hose assemblies shall conform to ISO 3253 and hoses shall conform to ISO 3821. Other components of the hose assembly in direct contact with the gas supplies shall comply with ISO 9539. The materials used for the hose clamps shall be corrosion resistant or protected against corrosion.

4.2 Material finishes

Any finishing lacquer or paint applied to the exterior of the devices shall be prevented from entering any of the orifices.

Adhesive lubricant or filler paste shall not be used when making the hose assemblies.

4.3 Hose assembly

The hose tail shall be fitted to the hose by means of a suitable hose clamp.

The hose clamp shall be positioned so that its relationship with the hose tail will not cause damage to the hose lining during assembling and tightening.

Before fitting any connections the hose shall be free from cuts, abrasions or any other external damage and, internally, free from dirt, talcum powder, rubber fragments or other detritus that could interfere with the correct gas flow and the operation of safety devices. The hose clamp shall not have prominent parts which can cause damage to the operator's hands.

5 Operational criteria

The physical strength and resultant safety of the hose assembly shall comply with the requirements given in clause 6.

6 Performance requirements and test methods

6.1 General

The tests given in this clause shall be applicable for type test only.

NOTE 1 The tests referred to in this clause are for type test only. They are not intended as a programme for production testing of all hose connectors and hose assemblies, although they are suitable for quality control checks.

6.2 Gas tightness

6.2.1 General

When tested in accordance with ISO 9090, leakage from the hose assembly shall not exceed the maximum permissible rate given in that International Standard.

6.2.2 Test method

The hose assembly shall be tested in accordance with the relevant requirements of ISO 9090.

6.2.3 Acceptance requirements

The hose assembly shall be considered gas tight if it complies with the maximum permissible leakage rate given in ISO 9090.

6.3 Resistance to separation under pressure

6.3.1 Test method

When pressurized at an internal hydrostatic pressure of three times the maximum working pressure of the hose, the hose shall not separate from the hose tail.

NOTE 2 Pneumatic testing may be used for this test provided adequate safety precautions be taken to protect persons at risk in the event of equipment failure.

6.3.2 Acceptance requirements

When tested in accordance with 6.3.1 the hose shall not separate from the hose tail.

6.4 Resistance to separation under axial load

6.4.1 Test method

When the unpressurized hose assembly is subjected to load, applied in an axial direction (see table 1) for 2 min, neither separation of the hose assembly nor fracture of components shall occur. After removal of the load the hose assembly, when tested in accordance with 6.2, shall remain gas tight.

6.4.2 Acceptance requirements

When tested in accordance with 6.4.1 there shall be no separation of the hose assembly or fracture of the components while under axial loading and the hose assembly shall remain gas tight after removal of the load.

Table 1 — Axial load for separation test

Nominal hose bore mm	Axial load N
5	440
6,3	520
8	650
10	850

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Annex A

(informative)

Guidance on hose tail dimensions

Because of permitted variations in elasticity and dimensions together with the variable results that can occur depending on the type of hose clamp selected for fixing the hose to the hose tail, it is not practicable to specify dimensions for a hose tail. However, where possible, the dimensions given in table A.1 and shown in figure A.1 should be used for guidance.

Table A.1 — Suggested dimensions for hose tail

Dimensions in millimetres

Nominal hose bore	$L_{\min}$	$D_{1 \max}$	$D_2 \begin{smallmatrix} 0 \\ -0,2 \end{smallmatrix}$	$D_3 \begin{smallmatrix} 0 \\ -0,2 \end{smallmatrix}$	$D_{4 \max}$
5	20,5	4,1	5,35	6,3	7,25
6,3	20,5	5,2	6,65	7,6	8,55
8	25,5	6,2	8,35	9,3	10,25
10	25,5	8,2	10,35	11,3	12,25
12,5	32,5	10,2	12,85	13,8	14,75
16	32,5	12,2	16,35	17,3	18,25
20	37,5	15,2	20,35	21,3	22,25

NOTE — It is important that the hose tail profiles have no sharp edges that could cut the hose or hose lining whilst in use.