
INTERNATIONAL STANDARD



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Rubber hose for grit blasting

Tuyaux en caoutchouc pour grenillage

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3861 was developed by Technical Committee ISO/TC 45, *Rubber and rubber products*, and was circulated to the member bodies in June 1975.

It has been approved by the member bodies of the following countries :

Australia	India	ISO 3861:1977
Belgium	Italy	Spain
Brazil	Mexico	Sweden
Bulgaria	Netherlands	Switzerland
Canada	New Zealand	Turkey
Czechoslovakia	Poland	United Kingdom
France	Romania	U.S.A.
Hungary	South Africa, Rep. of	U.S.S.R.
		Yugoslavia

No member body expressed disapproval of the document.

Rubber hose for grit blasting

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the requirements for rubber hose for wet and dry grit blasting, suitable for use at a maximum working pressure of 0,63 MPa (6,3 bar).

2 REFERENCES

ISO/R 36, *Determination of the adhesion strength of vulcanized rubbers to textile fabrics.*

ISO 37, *Rubber, vulcanized — Determination of tensile stress-strain properties.*

ISO 188, *Rubber, vulcanized — Accelerated ageing or heat-resistance tests.*

ISO 1307, *Rubber hose — Bore sizes, test pressures and tolerances on length.*

ISO 1402, *Rubber hose — Hydrostatic testing.*

ISO 1746, *Rubber hose — Bending test.*

ISO 2878, *Antistatic and conductive rubber products — Determination of electrical resistance.*¹⁾

3 DIMENSIONS AND TOLERANCES

3.1 Bore

The bore of the hose shall be in accordance with the nominal dimensions and tolerances given in table 1, which is itself in accordance with ISO 1307.

TABLE 1 — Bore

Values in millimetres

Nominal bore	Tolerance
20	± 0,75
25	± 1,25
31,5	± 1,25
40	± 1,50
50	± 1,50

NOTE — If special cases call for extra sizes :

— for smaller or larger dimensions, further numbers shall be chosen from the R 10 series of preferred numbers, the tolerances being as given in ISO 1307;

— for intermediate dimensions, numbers shall be chosen from the R 20 series of preferred numbers, the tolerances being as for the next larger bore size from the R 20 series.

3.2 Length

The tolerance on cut lengths of hose shall be in accordance with ISO 1307.

3.3 Thickness of rubber lining

The minimum thickness of the rubber lining shall be 5,0 mm.

4 PHYSICAL REQUIREMENTS

4.1 Tests made on full length of hose

4.1.1 Hydrostatic requirements

When tested in accordance with ISO 1402, the hose shall maintain a test pressure of 1,25 MPa (12,5 bar) for 1 min; the change in length shall not exceed ± 8 %, the change in outside diameter shall not exceed ± 10 % and the twisting per metre shall not exceed 60°.

4.1.2 Flexibility

When tested in accordance with ISO 1746 using a minimum radius of curvature C of ten times the nominal bore (see table 1), the deformation KD shall not exceed 0,80 times the outside diameter of the hose D .

4.1.3 Electrical resistance

When tested in accordance with ISO 2878, the resistance shall not exceed 2,0 MΩ/m.

1) At present at the stage of draft.

4.2 Tests made on cut piece of hose

4.2.1 Hydrostatic test

When tested in accordance with ISO 1402, the hose shall have a minimum bursting pressure of 2,5 MPa (25 bar).

4.3 Tests on test pieces cut from hose

4.3.1 Tensile strength and elongation at break of rubber lining and cover

The rubber used for the lining and cover shall, when tested in the manner described in ISO 37, have a tensile strength and elongation at break not less than the values given in table 2.

TABLE 2 – Tensile strength and elongation at break

	Tensile strength MPa	Elongation at break %
Lining	14,0	500
Cover	12,0	300

4.3.2 Adhesion strength

When tested in accordance with ISO/R 36, the minimum adhesion between rubber lining and reinforcement, between layers of reinforcement, and between reinforcement and cover shall not be less than 2,0 kN/m.

4.3.3 Accelerated ageing requirement

After ageing for 72 h at a temperature of 70 °C as described in ISO 188, the change in tensile strength and elongation at break of the rubber used for the lining and cover shall not vary from the initial values by more than the values given in table 3.

TABLE 3 – Accelerated ageing requirement

Property	Maximum variation from initial value %
Tensile strength	± 25
Elongation at break	+ 10 – 30

4.3.4 Abrasion resistance

Requirements for abrasion resistance will be specified when a suitable test method has been developed.

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