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# INTERNATIONAL STANDARD



# 5031

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Continuous mechanical handling equipment for loose bulk materials – Couplings and hose components used in pneumatic handling – Safety code

*Engins de manutention continue pour produits en vrac – Tuyauteries flexibles et raccords utilisés en manutention pneumatique – Code de sécurité*

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[ISO 5031:1977](https://standards.iteh.ai/catalog/standards/sist/4c8fa658-dbab-4c03-92d4-9243bc218b34/iso-5031-1977)

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**Descriptors:** handling equipment, continuous handling, bulk products, pneumatic equipment, hoses, couplings, pipe fittings, safety requirements.

## 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 5031 was developed by Technical Committee ISO/TC 101, *Continuous mechanical handling equipment*, and was circulated to the member bodies in February 1976.

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

|                |             |                       |
|----------------|-------------|-----------------------|
| Australia      | Germany     | ISO 5031:1977         |
| Austria        | India       | South Africa, Rep. of |
| Belgium        | Japan       | Spain                 |
| Bulgaria       | Mexico      | Sweden                |
| Czechoslovakia | Netherlands | Turkey                |
| Finland        | Poland      | United Kingdom        |
| France         | Romania     | U.S.S.R.              |
|                |             | Yugoslavia            |

No member body expressed disapproval of the document.

# Continuous mechanical handling equipment for loose bulk materials – Couplings and hose components used in pneumatic handling – Safety code

## 1 SCOPE

This International Standard specifies, in addition to the general safety rules set out in ISO 1819, the special safety rules for couplings and hose components used in the pneumatic handling of loose bulk materials.

## 2 FIELD OF APPLICATION

The safety rules laid down in this International Standard apply regardless of the use for which the equipment is intended. These safety rules limit the supplier's responsibility to continuous mechanical handling equipment properly so called, excluding the structures to which such equipment is fixed.

## 3 REFERENCES

ISO 1819, *Continuous mechanical handling equipment – Safety code – General rules*.<sup>1)</sup>

ISO 5028, *Continuous mechanical handling equipment for loose bulk materials – Pneumatic handling installations – Safety code*.

## 4 SPECIAL SAFETY RULES

The construction and operation of couplings and hose components used in the pneumatic handling of loose bulk materials shall meet

- the legal and local requirements relating to safety in general (see appendix Z of ISO 1819);
- the principles laid down in clause 1 of ISO 1819;
- the general rules laid down in clause 2 of ISO 1819 and in ISO 5028;
- the following special rules.

### 4.1 In the construction stage (design and manufacture)

4.1.1 For installations working under pressure, hose components fitted with couplings shall be tight and shall withstand at least 1,5 times the maximum operating pressure of the pneumatic handling system.

4.1.2 For installations working under pressure, the couplings of hoses fitted to rigid components should not, in case slackening occurs, permit a sudden uncoupling of the hose.

4.1.3 If the conveyed material and the nature of the hose utilized may generate static electricity in the hose, then a suitable conductor should be incorporated for its discharge to the preceding and following components. As an exception, for very short hoses, a shunt can be provided.

### 4.2 During the installation stage (layout, erection and entry into service)

4.2.1 The coupling of hose to stationary piping of the pneumatic handling system shall be made in an easily accessible place and shall not require the use of a ladder or any mobile or provisional scaffolding. The act of coupling shall be carried out at a convenient height, in principle not exceeding 1,50 m.

4.2.2 When there are several hose coupling pipes at the same place for the conveying of products of different natures, the mixing of which is prohibited or may be dangerous, the couplings shall have different diameters or be of different types so as to prevent any coupling error.

4.2.3 If the material used for manufacture of the hose, together with the characteristics of the conveyed material, allow generation of an accumulation of static electricity, the hose shall be earthed.

### 4.3 During the utilization stage (operation and maintenance)

4.3.1 The following items shall be regularly checked :

- the state of wear and tear of the hose;
- the quality of the seal-joint of the stationary pipe coupling;
- the tightness of the connection of the coupling to the hose.

4.3.2 In addition to rules 2.3.7 and 2.3.12 of ISO 1819, the coupling of the hose shall be carried out only by the personnel operating the pneumatic handling installation.

4.3.3 The uncoupling of the hose is prohibited while the plant is in operation.

4.3.4 Any hose not in use shall be stored at a place allocated for that purpose so as to avoid any accidental deterioration.

1) At present at the stage of draft. (Revision of ISO/R 1819-1970.)

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