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Rubber hoses and hose assemblies for use in oil burners - Specification

用于油燃烧器的橡胶软管和软管组合件规范

(ISO 6806:2017, IDT)

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Rubber hoses and hose assemblies for use in oil burners - Specification

1 Scope

This Standard specifies the requirements for rubber hoses and hose assemblies for use in oil burners.

This Standard specifies the following two types of hose assemblies:

- Type 1: Hose assemblies for outflow and return instead of fitting between oil burner pump and atomizing connection. The maximum working pressure is 1.0MPa. The maximum oil temperature is 100°C;

- Type 2: Hose assemblies installed between oil burner pump and atomizing connection. The working pressure is 4.0MPa. The maximum oil temperature is 100°C.

For applications other than oil burners, the hose assemblies specified in this document have not been specifically evaluated and shall not be used.

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.

GB/T 5565.2-2017, *Rubber and plastics hoses and tubing - Measurement of flexibility and stiffness - Part 2: Bending tests at sub-ambient temperatures* (ISO 10619-2:2011, IDT)

ISO 48, *Rubber, vulcanized or thermoplastic - Determination of hardness - Part 2: Hardness between 10 IRHD and 100 IRHD*

NOTE: GB/T 6031-2017, *Rubber, vulcanized or thermoplastic - Determination of hardness (hardness between 10 IRHD and 100 IRHD)* (ISO 48:2010, IDT)

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

NOTE: GB/T 9575-2013, Rubber and plastics hoses - Hose sizes, minimum and maximum inside diameters, and tolerances on cut-to-length hoses (ISO 1307:2006, IDT)

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

NOTE: GB/T 5563-2013, *Rubber and Plastics Hoses and Hose Assemblies - Hydrostatic Testing* (ISO 1402:2009, IDT)

ISO 1436, *Rubber hoses and hose assemblies - Wire-braid-reinforced hydraulic types for oil-based or water-based fluids - Specification*

NOTE: GB/T 3683-2011, Rubber hoses and hose assemblies - Wire-braid-reinforced hydraulic types for oil-based or water-based fluids - Specification (ISO 1436:2009, IDT)

ISO 1817, *Rubber, vulcanized or thermoplastic - Determination of the effect of liquids*

NOTE: GB/T 1690-2010, Rubber, vulcanized or thermoplastic - Determination of the effect of liquids (ISO 1817:2005, MOD)

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

NOTE: GB/T 9573-2013, Rubber and plastics hoses and hose assemblies - Methods of measurement of the dimensions of hoses and the lengths of hose assemblies (ISO 4671:2007, IDT)

ISO 7326, *Rubber and plastics hoses - Assessment of ozone resistance under static conditions*

NOTE: GB/T 24134-2009, Rubber and plastics hoses - Assessment of ozone resistance under static conditions (ISO 7326:2006, IDT)

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

NOTE: GB/T 7528-2019, Rubber and plastics hoses and hose assemblies -Vocabulary (ISO 8330:2014, IDT)

3 Terms and definitions

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

4 Construction

Hoses conforming to this document shall be constructed of one of the following two:

a) Internal smooth rubber inner lining and external corrosion resistant metal braid;

b) Internal smooth rubber inner lining, reinforcement layer consisting of a textile or corrosion-resistant metal braid and rubber outer covering.

When tested in accordance with ISO 1402, the hose assembly shall not leak or fail until the minimum burst pressure given in Table 4 is reached.

7.2 Oil swell

When tested according to the method specified in Annex C, the reduction in the inner diameter of the hose shall not exceed 10%.

7.3 External pressure test

When tested according to the method specified in Annex D, the reduction in the outer diameter of the hose shall not exceed 6%.

7.4 Low-temperature flexibility

After the test is carried out according to Method B in GB/T 5565.2-2017 at a temperature of (-40±2)℃, and when the verification pressure test is carried out according to 7.1, the hose shall not crack or leak.

7.5 Flammability

When tested according to the method specified in Annex E, the hose shall not leak.

7.6 Ozone resistance (outer cover only)

When tested according to ISO 7326, there shall be no cracking.

7.7 Impulse test

When tested according to the method specified in Annex F, there shall be no leakage or damage after completing 30,000 pulses.

8 Test frequency

The minimum test frequency shall comply with the arrangements given in Annex A.

Type test is a test performed to verify that the hose meets all the requirements of this document.

Routine tests are performed on each hose or finished hose.

Production tests are the tests performed per batch (see the arrangements given in Annex B, which are for guidance only).

9 Type test

Type test is a test performed to confirm that the manufacturing method and hose design meet all the material, construction and testing requirements of this document.

Type test shall be carried out at least every 5 years, or when the manufacturing method or material changes.

Type test shall be carried out on all sizes, all classes and types, except those of the same size and construction.

10 Marking

Hose assemblies complying with the requirements of this document shall be marked with the following:

a) Reference to this document;

b) Nominal inner diameter specification;

c) Type;

d) Manufacturer's logo or mark;

e) Season and year of manufacture.

Example: GB/T 24146-10-type 2-MAN-2Q21

NOTE: Hoses (for example: metal braids) can be marked with metal identification plates.

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