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**CHEMICAL INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Rubber compounds for seals used for dimethyl ether
(English Translation)**

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1 Scope

This standard specifies the requirements, inspection rules, marking, packaging, transportation, storage of dimethyl ether resistant rubber sealing materials.

This standard applies to dimethyl ether resistant rubber sealing materials; it is also applicable to rubber sealing materials resistant to liquefied petroleum gas-dimethyl ether mixtures.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document;

for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB/T 528 Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties

GB/T 531.1 Rubber, vulcanized or thermoplastic - Determination of indentation hardness - Part 1. Durometer method (Shore hardness)

GB/T 1682 Rubber, vulcanized - Determination of low-temperature brittleness - Single test piece method

GB/T 1690 Rubber, vulcanized or thermoplastic - Determination of the effect of liquids

GB/T 3512 Rubber, vulcanized or thermoplastic - Accelerated ageing and heat resistance tests - Air-oven method

GB/T 5721 General rules of identification, packaging, transportation and storage for rubber

sealing products

GB/T 7759 Rubber, vulcanized or thermoplastic - Determination of compression set at ambient elevated or low temperatures

GB 11174 Liquefied petroleum gases

GB 25035 Dimethyl ether for city gas

GB/T 26605 Dimethyl ether for motor vehicle fuel

TSG R0004 Supervision regulation on safety technology for stationary pressure vessel

3.1 Classification

Dimethyl ether resistant rubber sealing materials are classified into two categories.

Class A and Class B.

- Class A. Suitable for use in situations involving long-term or complete contact with dimethyl ether or a mixture of liquefied petroleum gas and dimethyl ether.

- Class B. Suitable for use in situations involving intermittent or partial contact with a mixture of dimethyl ether or liquefied petroleum gas and dimethyl ether.

3.2.1 The raw materials used in the rubber compound and their manufacturing processes

shall comply with relevant technical specifications.

3.2.2 Visually visible clumps and impurities larger than 0.2 mm are not permitted in the rubber compound.

3.3 Property requirements and test methods

The physical properties of vulcanized rubber shall conform to the provisions of Table

1.

4 Inspection rules

4.1

Rubber compounds produced continuously from the same batch of raw materials, with the same formula and the same process constitute a batch; the mass of each batch shall not exceed 500 kg. 1 kg of rubber compound shall be randomly selected from each batch, and vulcanized under specified conditions as a test sample.

4.2

Each batch of rubber compound shall undergo exit-factory inspection, which shall include the hardness, tensile strength, elongation at break, compression set, resistance to media as listed in Table 1.

4.3

If any test result is unqualified, double the specimen size shall be taken for retesting of the unqualified items. If the retest fails, the rubber compound may be reprocessed once. After reprocessing, a full range of performance tests must be conducted. If any item still fails, the batch of rubber compound is considered unqualified.

4.4

Type testing shall include all performance properties listed in Table 1. Type testing

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