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INDUSTRY STANDARD
OF THE PEOPLE'S REPUBLIC OF CHINA

QB/T 2332-1997

Stainless steel vacuum insulation vessel
不锈钢真空保温容器

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Foreword

This standard non-equivalently adopts Japanese Industrial Standard JIS S 2053-1994 *Stainless steel insulation vessel*.

In addition to the portable stainless steel insulation vessel, this standard adds desktop insulation vessel, big-mouth insulation vessel, and insulation cup.

The small-mouth insulation vessel of which the capacity is lower than 0.4L, the big-mouth insulation vessel, and insulation cup are mainly used to store drinks and food. They will not maintain for a long time under normal using circumstances, so the temperature measurement time for insulation vessel of which the capacity is lower than 0.4L is 12h; the temperature measurement time for big-mouth insulation vessel and insulation cup is 6h.

The portable insulation vessel must do tightness test.

This standard specifies that the strap-type insulation vessel shall do swing impact test, the others shall do fall impact test.

Taking the usage characteristics of the products into account, this standard has strict rules on the hygiene requirements of materials of plastics parts and stainless steel liner. The thickness of the material is not specified.

The strap color fastness test in this standard adopts the requirements of GB 3922-1983 *the textile's color fastness to perspiration test method*.

Taking the characteristics of small volume, heavy weight of the stainless steel insulation vessels into account, the stacking height must not exceed 3.0m.

Tightness performance test method; impact resistance test method; fitness test of the cork installation; mounting strength test of the strap and handle; smell of the water in capacity, cork and the container; and coating adhesion test specified in this standard ADOPT the relevant provisions of JIS S 2053-1994 *stainless steel insulation vessel.*

This standard was proposed by the China Light Industry Association's Quality Standard Department.

This standard shall be centralized by the National Daily Glass Enamel Standardization Center.

Drafting organizations of this standard: China Light Industry Association's Glass Enamel Institute, Shanghai Insulation Vessel Company, Hubei Jingjiang Ltd., Hebei Kaiyuan Industrial Co., Ltd., and Guangzhou Insulation Vessel Industrial Company.

The main drafter of this standard: Zhang Guoxiu, Pan Fengfang, Sun Zhongrong, Cui Renquan, and Chen Yumei.

This standard was first-time issued on December 4, 1997.

Light Industrial Standard

of the People's Republic of China

QB/T 2332-97

Stainless steel vacuum insulation vessel

1 Scope

This standard specifies the product classification, technical requirements, test method, acceptance rules and mark, packing, transportation and storage of the stainless steel vacuum insulation vessel.

This standard applies to the stainless steel vacuum insulation vessel used to store hot and cold drinks and food for daily use (hereinafter referred to as "insulation vessel")

2 Normative references

The articles contained in the following documents have become part of this standard when they are quoted herein. For the dated documents so quoted, all the modifications or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB 2828-1987	Sampling procedures and tables for lot-by-lot inspection by attributes (Apply to inspection of successive lots or batches)
GB 3280-92	Cold rolled stainless steel sheets and plates
GB/T 3922-1995	Textiles--Testing method for colour fastness to perspiration
GB 4239-91	Cold rolled stainless steel and heat-resisting steel strips
GB 4807-84	Hygienic standard for rubber sealing washer for food container
GB/T 5009.60-1996	Method for analysis of hygienic standard of products of polyethylene polystyrene and polypropyrene for food packaging
GB/T 5009.64-1996	Method for analysis of hygienic standard of rubber sheet (ring) for food use

obvious zigzag, deflated sub, wrinkles, rust and other defects. Welds are smooth without welding tumor.

5.3 Plastic parts shall be processed well. Plasticizing is uniform, with smooth surface, uniform color, no serious rub hair, no inadequate molding and other obvious defects.

5.4 Strap and other parts fit with the body, with being installed well.

6 Materials

6.1 Stainless steel liner's material shall comply with the provisions of GB 9684 2.1, or it uses the material having the same or better quality.

6.2 The materials of other stainless steel parts shall be consistent with the materials regulated by GB 3280 or GB 4239 or use materials having the same or better quality.

6.3 The materials of seal rings and rubber plastic parts that contact food shall be consistent with the provisions of Table 6, or use materials having the same or better quality.

7 Test methods

7.1 The insulation performance test of finished products

Conduct the insulation test to the finished products according to 3.1 in GB 5430. It shall use the finished cork.

7.2 Capacity measurement

The MASS of the insulation vessel which is filled with normal temperature water (5-35°C) to spill-over-full AND the sealing cork IS SUBTRACTED by the MASS of the insulation vessel which is without water and with the sealing cork. Then convert the mass into capacity (1 g of water is converted into 1 mL).

7.3 Impact resistance test

7.3.1 Drop test

In the condition of use, fully-fill the non-strap insulation vessel, which has been qualified for insulation effectiveness, with the normal temperature water (5-35°C). Then hang it up (as shown in Figure 5). Drop it from 400 mm height to 300mm-thick hard block board which is fixed horizontally. Inspect it according to the relevant provisions of Table 6.

Chapter 4. After all items are qualified, it is deemed as qualified.

9 Mark, packaging, transportation and storage

9.1 Marking

9.1.1 There shall be visible sign on each product or its packaging. Mark the name, capacity, manufacturing factory name, brand and quality grade of the product. And attach the instructions and the certificate.

9.1.2 The instructions shall indicate the product name, capacity, caliber, manufacturing factory name, and quality grade. And it shall indicate contents such as use method, precautions in use, executed standard, quality assurance and exchange requirements.

9.1.3 Transport packaging shall indicate the factory name, article number, grade, quantity, package size, volume, weight, and date of packing.

9.1.4 Marks like damp-proof, handle-with-care, upside-down forbidden shall be specified on the packing-case. And the marks shall conform to the provisions of GB 6388.

9.2 Packaging

9.2.1 Packaging can be divided into sales packaging and transport packaging.

9.2.2 The insulation container shall be packed in plastic film suit and then put into the sales packaging.

9.2.3 Single corrugated carton and double corrugated carton which meet the requirements of GB 6543 standard shall be used for the transport packaging. The bottom and cover of the box shall be adhered by seal. When sealing, banding belt shall be in moderate loose-tight.

9.3 Transportation

9.3.1 When transporting, it shall be avoided from damp, rain and violent vibration.

9.3.2 When transporting, it shall be handle with care. It must not be stepped or upside-down. Throwing is not permitted.

9.4 Storage

9.4.1 The storage place shall be dry and ventilated, not suffering from rain or snow, to prevent from damp.

9.4.2 The stacking height shall not be more than 3.0m. It shall avoid to be mix-stored

with substances such as oil, acid, and alkali.

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