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**BUILDING MATERIALS INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JC/T 1026-2007

**Glass fiber reinforced thermosetting resin grating for
supporting loads
(English Translation)**

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Foreword

Appendix A of this standard is a normative appendix.

This standard was proposed by China Building Materials Industry Association.

This standard shall under the jurisdiction of the National Fiber Reinforced
Plastics Standardization Technical Committee.

The main drafting organizations of this standard. Haohua Zhongyi FRP Co.,
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1 Scope

This standard specifies the structure, size, product model and marking,
technical conditions, load-bearing requirements, inspection rules and
packaging, marking, storage and transportation of glass fiber reinforced
thermosetting resin grating (hereinafter referred to as grating).

This standard applies to industrial platforms, floors, walkway paving, stair
treads, trench covers, fences and other load-bearing gratings in petrochemical,
metallurgy, light industry, shipbuilding, energy, municipal and other industries.

Non-load-bearing gratings can be implemented with reference to this standard.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard; however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 1446-2005 Fiber-reinforced plastics composites - The generals of test methods

GB/T 1449-2005 Fiber-reinforced plastic composites - Determination of flexural properties

GB/T 1462-2005 Test methods for water absorption of fiber reinforced plastics

GB/T 3854-2005 Test method for hardness of reinforced plastics by means of Barcol impresser

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1

Molded grating

A board with a certain open rate made by a special process on a customized mold with thermosetting resin as the matrix and glass fiber roving as the skeleton. The product is composed of several shapes of gratings; has the characteristics of bidirectional bearing in the longitudinal and lateral directions;

3.2

Pultruded grating

A board with voids made by a certain assembling process with the pultruded

I and T profiles as load-bearing ribs, pipes or bars as connecting rods. The product has high strength in the direction of the load-bearing ribs; it is often used under conditions of large spans. The pultruded grating is as shown in Figure 2.

3 and Table 1. The gratings of other sizes can be designed according to user

requirements.

4.1.2 The commonly used pultruded grating structure is as shown in Figure 4 and Figure 5. The specifications are as shown in Table 2. The gratings of other specifications can be designed according to user requirements.

5.1.1.1 The unsaturated polyester resin used in the grating shall meet the requirements of GB/T 8237-2005; the epoxy resin used shall meet the requirements of GB/T 13657-1992. Other resins shall meet the requirements of corresponding standards.

5.2 Appearance

The grating shall be smooth, flat, uniform in color, free of delamination, burrs, cracks, fiber exposure or impurities. It is not allowed for pores larger than $\Phi 3$ mm. The number of pores larger than 1 mm and less than 3 mm on any 300 mm x 300 mm area of the grating plate shall not exceed 10.

5.3.1 The length and width deviation of the grating is. -3 mm ~ +3 mm for molded grating and -6 mm ~ +6 mm for pultruded grating.

5.5 Barcol hardness

Barcol hardness is not less than 40.

5.6.2 For load-bearing structures such as access platforms, stairwell platforms, overhaul platforms, under the design loads listed in Table 3, the deflection at the midpoint of the grating shall not be greater than 1/120 of the span, the

maximum shall not exceed 9 mm. Meanwhile it shall meet the following requirements.

6.1.2 The size of the pores on the outer surface shall be inspected with a vernier caliper which has an accuracy of 0.02 mm.

6.2.1 Divide equally into four parts along the width of the grating. Use a steel tape which has an accuracy of 1 mm to measure the length of the grating. Take the arithmetic average of the three measurement results.

6.3 Water absorption

The water absorption test is carried out according to GB/T 1462-2005.

6.4 Barcol hardness

Barcol hardness test is carried out according to GB/T 3854-2005.

6.5 Load-bearing capacity

The load-bearing capacity test is carried out in accordance with Appendix A.

7.1 Inspection category

Product inspection is divided into exit-factory inspection and type inspection.

7.2.1 Inspection items

The exit-factory grating shall be inspected for appearance, dimensional deviation and Barcol hardness.

7.3.1 Inspection conditions

Type inspection shall be carried out in one of the following situations.

a) When the material, structure and process have obvious changes after the first production or normal production, which may affect the product performance;

7.3.2 Inspection items

All items specified in 5.2 ~ 5.6.