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Replacing GB/T 17470-1998

Glass Fiber Mats - Chopped Strand and Continuous Filament Mats

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Foreword

This Standard makes reference to EN 14118:2003 "Reinforcement - Specifications for Textile Glass Mats (Chopped Strand and Continuous Filament Mats)".

This Standard replaces GB/T 17470-1998 "Glass Fiber Chopped Strand Mat".

Compared with GB/T 17470-1998, the main changes in this Standard are as follows:

- The standard name was changed;
- Product specification and variety were added; and the scope of application was expanded;
- The requirements of grading and classification of products were deleted;
- The requirements of the mass (weigh) of mat roll were deleted;
- The requirements of hand lay-up molding were added;
- Appendix B (Normative) "Determination of Width of Glass Fiber Mat" was added;
- Technical index of some items was increased.

Appendixes A and B in this Standard are normative.

This Standard was proposed by the China Building Material Industry Association.

This Standard shall be under the jurisdiction of the National Technical Committee 245 on Glass Fiber of Standardization Administration of China (SAC/TC 245).

Drafting organizations of this Standard: Nanjing Fiberglass Research & Design Institute, Owens Corning (China) Investment Co., Ltd., Changzhou Tianma Group Co., Ltd. (Building Materials No. 253 Plant), HeBei Jinniu Energy Resources Co., Ltd. Glass Fiber Branch, Taishan Fiberglass Inc., and Jushi Group Co., Ltd.

Participating drafting organizations of this Standard: Chongqing International Composites Co., Ltd., Nanjing TianMing Fiberglass Products Co., Ltd., and Danyang Zhongya Fiberglass Products Co., Ltd.

Chief drafting staffs of this Standard: Wang Yumei, Chen Shang, Fang Yunwei, Shi Zhuo, and Gao Xudong.

The previous edition replaced by this Standard is as follows:

- GB/T 17470-1998.

Glass Fiber Mats - Chopped Strand and Continuous Filament Mats

1 Scope

This Standard specifies the classification and code, product specification, requirements, test methods, inspection rules, marking, packaging, transportation, and storage of chopped strand and continuous filament mats (hereinafter referred to as "mats") made from glass fiber.

This Standard is applicable to chopped strand mats made from glass fiber (hereinafter referred to as "chopped strand mats") and continuous filament mats made from glass fiber (hereinafter referred to as "continuous filament mats") used for the reinforcement of plastics and hydraulic matrices. It may also be applicable to glass fiber continuous monofilament mats and punched mats.

This Standard is not applicable to stitched bonded mats and veils made from glass fiber, nor to glass fiber mats used for thermal and sound insulation.

2 Normative References

The following normative documents contain provisions which, through reference in this text, constitute provisions of this Standard. For dated references, the subsequent amendments or revisions of these publications do not apply. However, parties who enter into an agreement based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies.

GB/T 191 Packaging — Pictorial marking for handling of goods

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

GB/T 1549 Methods of chemical analysis of soda-lime-alumina and borosilicate glass

GB/T 6006.1 Test method for glass mats — Part 1: Determination of styrene solubility

Table 5 Tensile break strength of continuous filament mats

Intended purpose	Nominal mass per unit area (g/m ²)	Tensile break strength (N/75 mm) ≥	
		vertical	horizontal
Pultrusion	<300	120	40
	300 to 599	150	60
	≥600	180	80
Others	<300	100	30
	300 to 599	135	40
	≥600	160	50

Table 6 Cinnamene solvability of chopped strand mat

Type	Cinnamene solvability (23°C)/s
H	<60
M	60 to 200
L	>200

Table 7 Bending strength of laminated wood

Type	Bending strength of laminated wood (MPa)	
	Standard condition	Moisture condition
Chopped strand mats	≥123	≥103
Continuous filament mats	≥144	≥125
Note 1: Glass fiber mass content in the laminated wood shall be: (30±5) % for chopped strand mats; and (35±5) % for continuous filament mats; Note 2: Moisture condition: soaked in the boiling distilled water for 2h; Note 3: All the test specimens shall be vertical specimens.		

5.1.8 Mouldability

Unless otherwise specified, the hand lay-up molding of glass fiber mat shall be in accordance with those specified in Table 8.

5.1.9 Resin soakage rate

6.9 Resin soakage rate

In accordance with the requirements of Appendix A.

6.10 Width

If the both edges are finished edge, measured it by the steel tape with a precision of 1 mm. Measurement shall be carried out along the external surface of mat roll and parallel to the roller. Measure three times with mat distributed uniformly; and calculate the mean value of measurement result.

If the mat roll with raw edge, measure it in accordance with the requirements of Appendix B.

6.11 Appearance quality

Visual inspection on production lines.

7 Inspection Rules

7.1 Exit-factory inspection and type inspection

7.1.1 Exit-factory inspection

The products shall be carried out with exit-factory inspection before leaving the factory. Exit-factory inspection items shall include: mass per unit area, combustible content, tensile break strength, width, water content and appearance quality.

7.1.2 Type inspection

The type inspection shall be carried out when one of the following conditions is met:

- a) When a new product is launched;
- b) When there is significant change of raw materials or production process;
- c) When the production is resumed after more than three-months shutdown;
- d) During normal production, conduct at least once a year;
- e) Where the inspection results are significantly different from last type test;
- f) When it is required by the contract between the supplier and the purchaser;
- g) When the quality supervision department proposes type inspection requirements.

Type inspection shall be carried out in accordance with all the technical requirements specified in this Standard.

e) Applicable resins.

8.1.2 Product marking shall be indicated on the packaging, or provide the relevant information to the user in advance.

8.2 Packaging

8.2.1 The product shall be winded on the cardboard tube with an external diameter not less than 76 mm; and sealed with moisture-proof materials. Ensure to avoid moisture and damage in the process of movement, storage and transportation.

8.2.2 External surface of packaging shall include:

- a) Product name, product designation, series number of this Standard;
- b) Name and address of manufacturing plant;
- c) Production date (or batch number);
- d) Quality (or roll length)
- e) The graphic representation of "No Rain" and "Stacking Layers Limit" specified in GB/T 191;
- f) Storage period.

8.2.3 Special packaging shall be determined through negotiation between the supplier and the purchaser.

8.3 Transportation

Transportation of product shall be dry and covered; and mechanical damage, direct sunlight and moisture shall be avoided during transportation.

8.4 Storage

Product shall be stored in dry and ventilated room. Keep out of direct sunlight and heat source. Stacking height shall be up to the mustard.

Optimal storage conditions: temperature is 10 °C ~ 35 °C; relative humidity is less than 85%. Storage period is generally 12 months.

Appendix B

(Normative)

Determination of the Width of Glass Fiber Mats

B.1 Scope

This Appendix specifies a determination method of the width of glass fiber mats with raw edge.

This Appendix is applicable to chopped strand mats, continuous filament mats, continuous monofilament mats, and punched mat made from glass fibers.

B.2 Apparatus

B.2.1 Straight steel ruler: Accuracy is 1 mm.

B.2.2 Specimen holder: It is composed of two metal plates or wood plates perpendicular to the tabletop and with a distance of 10 mm.

B.2.3 Sharp shear knife or paper knife.

B.3 Operation procedure

B.3.1 With one raw edge

Cut out a 30 cm mat strip along the whole width of mat; then cut out a rectangular specimen, (50 ± 5) cm, on the mat strip (including raw edge), see Figure B.1.

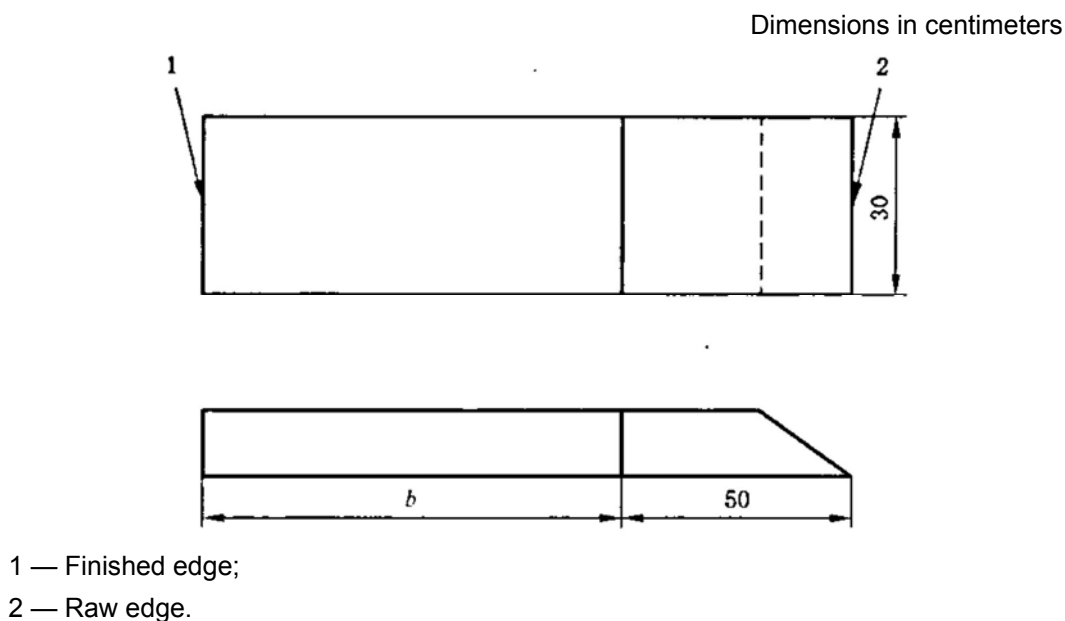


Figure B.1 Schematic diagram of test specimen cutting

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