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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Polymer water-proof materials - Part 1: Water-proof sheet
(English Translation)**

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Foreword

Chapters 5 and 8 of this Part are mandatory clauses, while others are recommended clauses.

GB 18173 Polymer water-proof materials is divided into 4 parts.

- Part 1. Water-proof sheet;
- Part 2. Waterstop;
- Part 3. Hydrophilic expansion rubber;
- Part 4. Rubber gasket for shield-driven tunnel.

This Part is Part 1 of GB 18173.

This Part was drafted in accordance with the rules given in GB/T 1.1-2009.

This Part replaces GB 18173.1-2006 Polymer water-proof materials - Part 1. Water-proof sheet.

The major differences between this Part and GB 18173.1-2006 are as follows.

- MODIFY and ADD some terms and definitions (SEE Sections 3.1, 3.3, 3.4, 3.5, 3.6 and 3.7 of this Part, Sections 3.1, 3.3 and 3.4 of 2006 edition);
- ADD the types, technical indicators and relevant detection methods of the water-proof sheets, such as self-adhesive sheets, special-shaped sheets,

etc. (SEE Sections 5.3.3, 5.3.4, 6.3.2.2 and 6.3.13 of this Part);

- DELETE the reclaimed rubber (JL4) water-proof sheets in the

homogeneous sheets (SEE Section 4.1 of 2006 edition);

- ADJUST the physical property indicators of some homogeneous sheets and composite sheets (SEE Sections 5.3.1 and 5.3.2 of this Part, Section

5.3.1 of 2006 edition);

- ADJUST the composite strength indicator and test method for the surfaces and cores of Type FS2 composite sheets (SEE Section 5.3.2 and Annex E of this Part, Section 5.3.2 of 2006 edition).

This Part makes reference to JIS A 6008.2002 Roofing sheets of synthetic polymer and ASTM D6134.2007 Standard specification for vulcanized rubber sheets used in waterproofing systems, and also amends the original standard in combination with the requirements for the development and utilization of domestic sheet production.

This Part was proposed by the China Petroleum and Chemical Industry Federation.

This Part shall be under the jurisdiction of the Technical Subcommittee for Rubber Sundries of National Technical Committee for Standardization of Rubber and Rubber Products (SAC/TC 35/SC 7).

Drafting organizations of this Part. Beijing Chemical Products Quality Supervision and Inspection Station, Shengli Oil Field Dynamic New Type Waterproof Building Materials Co., Ltd., Changshu Sanheng Building Material Co., Ltd, Shenyang Xingchen Chemical Co., Ltd., CABR (Beijing) Structural Engineering Co., Ltd., Hengshui Zhongtiejian Earthwork Material Manufacturing Co., Ltd., Suiling Second Plastics Co., Ltd. of Harbin High Tech (Group) Co., Ltd., Beijing Shengjie Waterproof Material Co., Ltd., Beijing Shiji Baojia Building Materials Co., Ltd., Hengshui Baiwei Engineering Rubber Co., Ltd. and Beijing Hong Yu Qiao Construction Materials Co., Ltd.

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The previous released editions substituted by this Part are as follows.

- GB 18173.1-2000 and GB 18173.1-2006.

Polymer water-proof materials -

Part 1. Water-proof sheet

1 Scope

This Part of GB 18173 specifies the terms and definitions, classification and markings, requirements, test methods, inspection rules, symbols, packaging, transportation and storage of the water-proof sheets made of polymer water-proof materials.

This Part is applicable to the homogeneous sheets (hereinafter referred to as "homogeneous sheets"), composite sheets (hereinafter referred to as "composite sheets"), special-shaped sheets (hereinafter referred to as "special-shaped sheets"), self-adhesive sheets (hereinafter referred to as "self-adhesive sheets") and material with point (strip) adhesion sheets [hereinafter referred to as "material with point (strip) adhesion sheets"], which use polymer materials as main materials, are produced by means of extrusion or calendaring, and are used in various kinds of engineering waterproofing, seepage prevention, moisture proofing, gas segregation, pollution prevention, drainage, etc.

2 Normative references

The following documents are essential to the application of this document. For dated references, only the editions with the dates indicated are applicable to this document. For undated references, only the latest editions (including all the amendments) are applicable to this document.

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

GB/T 529 Rubber, vulcanized or thermoplastic - Determination of tear strength (trouser, angle and crescent test pieces)

GB/T 532 Rubber, vulcanized or thermoplastic - Determination of adhesion to textile fabric

GB/T 1040.2 Plastics - Determination of tensile properties - Part 2. Test conditions for moulding and extrusion plastics

3 Terms and definitions

The following terms and definitions are applicable to this document.

3.1 Homogeneous sheet

Homogeneous sheets refer to the water-proof sheets using polymer composite materials as main materials, whose cross-sectional structure of each part is the same.

3.3 Self-adhesive sheet

Self-adhesive sheets refer to the water-proof sheets compositing a layer of self-adhesive material and an isolation protective layer on the surface of each polymer sheet to improve the adhesive properties between self-adhesive sheet and base layer, whose cross-sectional structure of each part is the same.

3.4 Special-shaped sheet

Special-shaped sheets refer to the water-proof (drainage) sheets using polymer composite materials as main materials, whose surfaces are continuous convex and concave shells or in specific geometric shapes after processed by means of special technologies.

3.6 Composite strength

It refers to the composite strength BETWEEN the protective or reinforcing layer on the surface AND the core of the composite sheet, expressed as MPa.