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

GB/T 328.9-2007

**Test methods for building sheets for waterproofing -- Part 9:
Plastic and rubber sheets for waterproofing-tensile properties
(English Translation)**

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Foreword

"Test Methods for Building Sheets for Waterproofing" (GB/T 328) includes the following 27 parts:

- Part 1: Bitumen Plastic and Rubber Sheets for Waterproofing - Rules for Sampling;
- Part 2: Bitumen Sheets for Waterproofing - Visible Defects;
- Part 3: Plastic and Rubber Sheets for Waterproofing - Visible Defects;
- Part 4: Bitumen Sheets for Waterproofing - Thickness and Mass per Unit Area;
- Part 5: Plastic and Rubber Sheets for Waterproofing - Thickness and Mass per Unit Area;
- Part 6: Bitumen Sheets for Waterproofing - Length, Width and Straightness;
- Part 7: Plastic and Rubber Sheets for Waterproofing - Length, Width, Straightness and Flatness;
- Part 8: Bitumen Sheets for Waterproofing - Tensile Properties;
- Part 9: Plastic and Rubber Sheets for Waterproofing - Tensile Properties;
- Part 10: Bitumen Plastic and Rubber Sheets for Waterproofing - Watertightness;
- Part 11: Bitumen Sheets for Waterproofing - Flow Resistance at Elevated

Temperature;

- Part 12: Bitumen Sheets for Waterproofing - Dimensional stability;
- Part 13: Plastic and Rubber Sheets for Waterproofing - Dimensional Stability;
- Part 14: Bitumen Sheets for Waterproofing - Flexibility at low temperature;
- Part 15: Plastic and Rubber Sheets for Waterproofing - Foldability at Low

Temperature;

- Part 16: Plastic and Rubber Sheets for Waterproofing - Exposure to Liquid Chemicals Including Water;

- Part 17: Bitumen Sheets for Waterproofing - Adhesion of Granules;
- Part 18: Bitumen Sheets for Waterproofing - Resistance to Tearing (Nail Shank);
- Part 19: Plastic and Rubber Sheets for Waterproofing - Resistance to Tearing;
- Part 20: Bitumen Sheets for Waterproofing - Resistance to Peeling of Joints;
- Part 21: Plastic and Rubber Sheets for Waterproofing - Resistance to Peeling of Joints;
- Part 22: Bitumen Sheets for Waterproofing - Resistance to Shearing of Joints;
- Part 23: Plastic and Rubber Sheets for Waterproofing - Resistance to shearing of Joints;
- Part 24: Bitumen Plastic and Rubber Sheets for Waterproofing - Resistance to Impact;

- Part 25: Bitumen Plastic and Rubber Sheets for Waterproofing - Resistance to Static Loading;

- Part 26: Bitumen Sheets for Waterproofing - Dissoluble Composite of Membrane (Impregnated and Coated Asphalt Amount);

- Part 27: Bitumen Plastic and Rubber Sheets for Waterproofing - Water Absorption.

This Part is Part 9 of GB/T 328.

This Part is identical to "Flexible sheets for waterproofing. Determination of tensile properties. Plastic and rubber sheets for roof waterproofing" (EN 12311-2:2000).

Chapter and article numbers of this Part are consistent with those of EN 12311-2:2000.

For convenience of use, the main differences between this Part EN 12311-2:2000 are as follows:

- a) "This European Standard" was changed into "this Part";
- b) "EN 1849-2", "EN 13416", "ISO 37", "ISO 7500-1" was changed into "GB/T 328.5", "GB/T 328.1", "GB/T 528", "JJG 139" respectively;
- c) The foreword of EN 12311-2:2000 was deleted; the foreword of this Part was re-prepared;
- d) "Test Methods for Asphalt Waterproof Roll Roofing" (GB/T 328-1989) is replaced by "Test Methods for Building Sheets for Waterproofing" (GB/T 328.1~328.27-2007) that is consisted of this Part and other parts.

This Part was proposed by China Building Material Industry Association.

This Part shall be under the jurisdiction of the National Technical Committee on

Test methods for building sheets for waterproofing -

Part 9: Plastic and rubber sheets for waterproofing -

Tensile properties

1 Scope

This part of GB/T 328 specifies test methods for the determination of the tensile properties of plastic and rubber sheets for roof waterproofing.

Method A (ISO 1421) is applicable to all materials; for materials that are not applicable to Method A, if there is no break on the material, Method B (GB/T 528) may be used to determine the tensile property.

2 Normative References

The following normative documents contain provisions which, through reference in this text, constitute provisions of this Part of GB/T 328. For dated references, then subsequent amendments revisions of these publications do not apply. However, parties who enter into an agreement based on this Part 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 328.1 "Test methods for building sheets for waterproofing - Part 1: Bitumen plastic and rubber sheets for waterproofing rules for sampling"

GB/T 328.5 "Test methods for building sheets for waterproofing - Part 5: Plastic and rubber sheets for waterproofing-thickness and mass per unit area"

GB/T 528 "Rubber, vulcanized or thermoplastic - Determination of tensile stress - Strain properties"(GB/T 528-1998 eqv ISO 37:1994)

JJG 139-1999 "Verification Regulation of Universal Tension and Compression Testing Machine"

ISO 1421 "Rubber-or plastics-coated fabrics - Determination of tensile strength and elongation at break"

In the case of sheets with composite reinforcements, which give rise to two or more distinct peaks on the force/elongation curve, the force and elongation of the two greatest peaks and also the elongation at break shall be recorded.

9 Expression of results, evaluation and precision of test

method

9.1 Evaluation

Determine from the force and distance recorder, or from the data registered, the maximum force and the corresponding elongation calculated from the separation of the tensile testing machine grips or gauge marks and expressed as a percentage of the original gauge length.

Disregard any test result where the test specimen breaks within 10 mm from the grips or when it slips by more than the permitted limit within the grips of the tensile testing machine, and retest with a replacement specimen.

The maximum tensile force and corresponding elongation and the elongation at break are noted, together with the direction of test.