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

GB/T 34477-2017

**Metallic materials - Sheet and strip - Dent resistance test
method**

金属材料 薄板和薄带 抗凹性能试验方法

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard is proposed by China Iron and Steel Association. This standard by the National Standardization Technical Committee Steel (SAC/TC183) centralized. This standard was drafted by Baoshan Iron and Steel Co., Ltd., Shanghai Shenli Testing Machine Co., Ltd., Metallurgical Industry Information Standards Institute. The main drafters of this standard. Fang Jian, Zhang Jianwei, Yang Haoyuan, Dong Li. Metal sheets and ribbons Anti-concave performance test methods

1 Scope

China's national method for measuring the dent resistance of metal sheet and strip under quasi-static conditions. It specifies the terms and definitions, the test principle, the specimen preparation, the test equipment, the procedure, the evaluation of results and the test report. Dent resistance is the property that decides whether a car door dimples when someone leans a shopping trolley against it, and it is the reason automotive sheet cannot simply be made thinner and thinner. Strength and dent resistance are not the same thing: a panel resists denting through a combination of the sheet's yield strength, its thickness and the curvature the stylist gave it, and a stronger steel rolled thinner can dent more easily than the mild steel it replaced. Since every gram removed from a car body is worth money and fuel, and every dent complaint is a warranty cost, the trade-off has to be quantified rather than judged. This method supplies the number, measured slowly so that the result is a property of the panel rather than of an impact.

This standard specifies the metal materials and thin strip (hereinafter referred to as the metal plate) in the quasi-static test conditions anti-concave performance terms and set Meaning, test principle, sample preparation, test equipment, test procedures, results evaluation and test report. This standard applies to the stamping of the metal sheet with anti-concave performance test.

2 Normative references

The following documents for the application of this document is essential. For dated

references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 16825.1 static uniaxial testing machine test Part 1. Tensile and (or) pressure testing machine testing system and force measurement calibration

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Deflection deflection When a specific force is applied to the surface of a specimen, the amount of material deformation is characterized by the total displacement of the indenter.

3.2 Dent dent Depression of the specimen in the stressed area.

Note. Defects left behind when the product is not designed or machined.

3.3 Dent depth dentdepth Anti-concave test process, the initial load to the specified initial force, and after the first cycle load is loaded again to the specified initial force, corresponding to twice Displacement value of the difference.

3.4 Visual dent depth firstvisibleindentdepth Dv The depth of the indentation that can be observed initially. Note This value is affected by various factors such as paint color, curvature of the surface of the specimen, and the area affected by the dimples. This value is usually in the range of

0.02 mm to

0.1 mm.

3.5 Dent initial force dentinitiationload Critical indentation force FD The force applied to define the depth of the indentation is formed.