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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 36877-2018

Determination of impact peel strength of structural adhesives -- Wedge method

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Table of Contents

Foreword

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

This standard uses the redrafting method to modify the use of ISO 11343.2003 "adhesive under impact conditions, high-strength adhesive resistance to dynamic ?

Determination of crack strength Wedge impact method.

This standard has more structural adjustments than ISO 11343.2003. This standard and ISO 11343.2003 are listed in Appendix A.

The chapter number is compared to the list.

Compared with ISO 11343, the technical differences and their causes are as follows.

---About the normative reference documents, this standard has made technical adjustments to adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory References", and the specific adjustments are as follows.

* Replace ISO 291.1997 with GB/T 2918 equivalent to the international standard;

* Added reference to GB/T 2943;

* Replace ISO 10365.1992 with GB/T 16997 equivalent to the international standard;

* Removed EN13887 referenced by ISO 11343.2003;

* Added reference to GB/T 21526.

--- Increased the terminology and definition of "impact stripping" for easy understanding (see 3.1).

--- Added "Summary of the drop hammer impact tester" (see Figure 1) schematic diagram of the test (see Figure 5), in line with national conditions, easy to understand and

operating.

---Modified the impact speed and unified it to 2m/s (ISO 11343.2003 standard specifies that the impact velocity when the adherend is aluminum)

3m/s, when the adherend is steel, the impact speed is 2m/s) in line with national conditions, easy to operate (see 7.2).

This standard has made the following editorial changes.

--- Change the standard name to "Measurement of impact peel strength of structural adhesives".

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

This standard is under the jurisdiction of the National Adhesive Standardization Technical Committee (SAC/TC185).

This standard was drafted. Sanyou (Tianjin) Polymer Technology Co., Ltd., Hangzhou Zhijiang Silicone Chemical Co., Ltd., Guangdong Shili and Steam

Che Industry Group Co., Ltd., Shanghai Kangda Chemical New Materials Co., Ltd., Shanghai Zhongsheng Adhesive Co., Ltd., Sika (China) Co., Ltd.

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1 Scope

This standard specifies the test method for determining the impact peel strength of structural adhesives by the wedge method.

This standard is applicable to the determination of the impact peel strength of bonded test pieces composed of metal and metal, metal and non-metal.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

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

GB/T 2918 Standard environment for conditioning and testing of plastic samples (GB/T 2918-1998, idtISO 291.1997)

GB/T 2943 Adhesive Terminology

GB/T 16997 Representation of main failure types of adhesives (GB/T 16997-1997, idtISO 10365..1992)

GB/T 21526 Structural Adhesives for pre-bonding metal and plastic surface treatment guidelines (GB/T 21526-2008, ISO 17212.

2004, IDT)

3 Terms and definitions

The following terms and definitions as defined in GB/T 2943 apply to this document.

3.1

Impact peeling impactpeel

Under the action of the external force, the wedge impacts the bonding portion of the bonding member, causing the two adherends of the bonding member to be separated in a peeling manner.

3.2

Impact peel strength impactpeelstrength

The force required to impact the peel on the unit width.

Note. The unit is kilograms per meter (kN/m).

4 Principle

In the form of force or energy, the ability of the bonding member to resist impact peeling under the impact of a high-speed moving wedge is characterized.

5.1 Impact Tester

1 is a schematic view of a drop hammer impact tester, and FIG. 2 is a schematic view of a pendulum impact tester.

The impact tester has an impact energy of at least 50 J, preferably up to 300 J; an impact velocity of at least 2 m/s, preferably up to 5.5 m/s.

The impact tester is equipped with a sensor that records and stores the amount of peel force during the impact test, using time or displacement

Numerical representation. The response time of the sensor is at least an order of magnitude smaller than the time at which the impact event occurred.