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

GB/T 15022.4-2009

**Resin based reactive compounds used for electrical insulation
-- Part 4: Unsaturated polyester based impregnating resins**

电气绝缘用树脂基活性复合物 第4部分：不饱和聚酯为基的浸渍树脂

(English Translation)

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Foreword

GB/T 15022 "for electrical insulation resin based reactive compounds" consists of the following components.

- Part 1. Definitions and general requirements;
- Part 2. Test methods;
- Part 3. epoxy compound;
- Part 4. Unsaturated polyester based impregnating resin;

This section GB/T 15022 Part 4.

The partial modification of the use of IEC 60455-3-5:2006 "electrically insulating resin based reactive compounds - Part 3. Specifications for individual materials Section 5. Unsaturated polyester resin-impregnated "(in English).

Taking into account China's national conditions, in using IEC 60455-3-5:2006 when this section do the following technical corrections.

- a) increasing the Normative references GB/T 11026 (all parts);
- b) The IEC 60455-3-5:2006 Table 2 agreed upon by both parties, "gel time" performance to the requirements of this section;
- c) to 5.3. "Results should be within $\pm 10\%$ of its nominal value" to "results should not be less than the supply and demand sides agreed value.";
- d) an increase in Chapter 5 of the "electric strength (normal oil)", "bond strength (normal)" requirements.

For ease of use, and this part of IEC 60455-3-5:2006 compared also made the following editorial changes.

- a) Remove the IEC 60455-3-5:2006 Foreword, Introduction and references;
- b) according to GB/T 1.1 modify IEC 60455-3-5:2006 Chapter 1, "scope" of the expression,

and deleted the user how to choose Optional description of the material;

c) "Normative references" in the reference standard, and where there are IEC (or ISO) standards with the corresponding national standards are national standards Alternative;

d) Remove the IEC 60455-3-5:2006 5.1 "flashpoint" in the applicable international standards formulation and 5.8 "solvent vapor resistance" Applicable international standards Article Note.

This section of Appendix A normative appendix.

This part is proposed by the China Electrical Equipment Industrial Association.

This part of the National Standardization Technical Committee of the insulating material (SAC/TC51) centralized.

This section is responsible for drafting unit. Guilin Institute of Electrical Science.

Participated in the drafting of this section. Suzhou Jufeng Insulation Materials Co., Ltd. Zhejiang Rongtai Technology Enterprise Co., Ltd., Sichuan East wood science and technology collection Group Co., Ltd., Wujiang Taihu insulation materials plant Guangzhou Bao Li Electric Materials Co., Ltd., Xi'an Electric electrical materials limited liability any company, National Engineering Research Center of insulating material.

1 Scope

This section GB/T 15022 specifies the general requirements for the unsaturated polyester based impregnating resins.

This section applies to an unsaturated polyester resin-impregnated base.

2 Normative references

The following documents contain provisions which, through reference GB/T 15022 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 1981.2-2009 electrical insulating paints - Part 2. Test methods (IEC 60464-2:2001, MOD) GB/T 6109.5-2008 enamelled round winding wire - Part 5. 180 polyester enamelled round copper wire (IEC 60317-8:1997, IDT) Part 11 GB/T 6109.11-2008 enamelled round winding line. 155 polyamide composite solderable polyurethane enamelled round copper wire (IEC 60317-21:2000, IDT) Aging procedures and evaluation of test results. GB/T 11026.1-2003 heat resistance, electrical insulating materials - Part 1 (IEC 60216-1:2001, IDT) GB/T 11026.2-2000 determine the electrical insulation material heat resistance guide -

Part 2. Test selection criteria (IEC 60216-2:1990, IDT) GB/T 11026.4-1999 determine the electrical insulation material heat resistance guide - Part 4. Ageing ovens - Single - chamber ovens (IEC 60216-4-1:1990, IDT) Impregnating agents to an enamelled wire substrate bond strength test method GB/T 11028-1999 Determination (eqvIEC 61033.1991) GB/T 15022.1-2009 electrically insulating resin based reactive compounds - Part 1. Definitions and general requirements (IEC 60455-1:1998, IDT) GB/T 15022.2-2007 electrically insulating resin based reactive compounds - Part 2. Test methods (IEC 60455-2:1998, MOD) IEC 60172. 1987 Test method for temperature index of enamelled winding wires Determination

3 Terms and Definitions

This section uses the terms and definitions GB/T 15022.1-2009 established.

The polymer having a carbon chain - carbon unsaturated bond of the polyester resin, which then may or may not necessarily crosslinking comonomers, in Curing process to release volatile organic compounds (VOC) less than 3%.

Category 4

This part resin according to Table 1 classification.