

ICS 83.080.10

CCS G 32



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

GB 1404.3-2008

Replacing GB 1404-1995

**Plastics -- Phenolic powder moulding compounds -- Part 3:
Requirements for selected moulding compounds**

塑料 粉状酚醛模塑料 第3部分：选定模塑料的要求

(English Translation)

Issued on: September 24, 2008

Implemented on: September 1, 2009

Issued by: Standardization Administration of China

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4 Requirements
 - 4.1 Performance Value
- 5 Other properties
- 6 Signs, packaging, transportation and storage
 - 6.1 Mark
 - 6.2 Packaging
 - 6.3 Transport
 - 6.4 Storage

Foreword

Table 1 in this section some indicators are mandatory, the rest are recommended.

"Plastic powdered phenolic molding plastic" points the following parts.

- Part 1. Designation system and basis for specifications;
- Part 2. Sample preparation and performance measurement;
- Part 3. Selected plastic molding requirements.

This section "Plastics Phenolic molding powder" in Part 3.

The partial modification of the use of ISO 14526-3:1999 "Plastics --- powdered phenolic molding compounds (PF-PMCs) --- Part 3. Selected mode Plastic requirements "(in English).

Using ISO 14526-3:1999, the made some changes in this section. About the technical differences have been incorporated into the body and they are involved the terms of the margin identified by a single vertical line. In Appendix B gives a list of these technical differences and the reasons for the reference.

For ease of use, this section made the following editorial changes.

- a) Remove the ISO 14526-3:1999's "Preface";

- b) use a decimal point instead of a decimal comma " , " ;
- c) Chapter 2, "Normative references", whenever there is a corresponding use ISO , IEC standards to national standards, national standards are thus an alternative;
- d) with "rhov" instead of "rhoe", "rhos" instead of "sigmae".

This Part replaces GB 1404-1995 "phenolic molding plastic." this part of the difference with GB 1404-1995.

- a) the standard name to "powdered phenolic molding plastics - Part 3. Requirements for selected molding compounds";
- b) modify the use of ISO 14526-3:1999;
- c) product type of filler, the shape and content divided into 10 categories;
- d) an increase of three performance indicators tensile stress at break σ_B , deflection temperature under load $T_{f8.0}$ and dielectric loss factor $\tan\delta_{100}$ like.

This section of the Appendix A, Appendix B is an informative annex.

This part is proposed by the China Petroleum and Chemical Industry Association.

This part of the National Standardization Technical Committee plastic products sub General Methods and Technical Committee.

This section is responsible for drafting unit. Shanghai European-Asian Synthetic Material Co., Ltd, the State Quality Supervision and Inspection Center of synthetic resin is responsible for drafting.

Participated in the drafting of this section. Shanghai Doubletree plastics factory, Changshu Southeast Plastic Co., Ltd., Zhejiang Jiahua Group Co., Ltd., Xiamen Two Shaxian Hongsheng Chemical Co., Ltd. and Plastic Co., Ltd.

1 Scope

This section provides for the determination of sample compression molded or injection molded plastic powdered phenolic (PF-PWCs) requirements for physical and chemical properties.

This section applies to a different composition and performance, general technical and economic value of the powdery molding compounds.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this section, however, encourage the parties to this

part of the research agreement Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 1404.1-2008 Plastic powdered phenolic molding materials - Part 1. Designation method and basis for specifications (ISO 14526-1.

1999, IDT)

GB/T 1404.2-2008 Plastic powdered phenolic molding materials - Part 2. Sample preparation and determination of properties (ISO 14526-2.

1999, IDT)

GB/T 2035-2008 Plastics terms and definitions (ISO 472:1999, IDT) GB/T 2407-2008 Determination of properties (ISO 181 when plastic rigid plastic small sample and the catalytic combustion hot rods. 1981, IDT) GB/T 2547-2008 plastic sampling method

3 Terms and Definitions

GB/T 2035-2008, GB/T 1404.1-2008, terms and definitions GB/T 1404.2-2008 established applicable to this section.

4.1 Performance Value

Phenolic molding powder shall conform to Table 1, Table 2 and Table 3 shown in the corresponding performance requirements.

Table 1, Table 2 and Table 3 gives the average of a set of sample performance measurement, the measured value of each individual and tables 2.1,2.2,2.3 and 2.4 rows

The difference between the average value should be within 10% of the mean; the difference between the individual rows 3.1 and 3.2 and the average of the measured values, shall mean 5 °C within range.

Rheological properties and molding properties are not particularly limited, but suitable rheological properties and molding properties, it is able to Performed satisfactorily molding is essential. Its test methods and test conditions agreed to by both parties.

In addition, for some applications, it may be desirable to obtain other relevant data, such as.

--- Curing time;

--- Particle size;

--- Moisture content.

If so, these properties and test methods and test conditions agreed upon by both parties.

Performance requirements for packing powdered phenolic molding plastic Table 1 contains (WD + MD) or (LF + MD) Model. molded plastic GB/T 1404.1-2008-PF Property Unit

Process A method maximum Least (WD30 + MD20) (WD40 + MD10) (WD30 + MD20), X, E (WD40 + MD10), X, E (WD30 + MD20), X, A (WD40 + MD10), X, A (LF20 + MD25) (LF30 + MD15) 1 flow and process performance 1.1 supply and demand sides agreed

2 Mechanical properties 2.1 Tensile fracture Stress σ_B MPa 2.2 Bending strength σ_{fM} MPa 2.3 Simply supported beam red Impact strength Rao cU kJ/m² 4.5 5.0 4.5 5.0 4.5 5.0 4.5 5.0 2.4 Charpy notched Impact strength Rao cA kJ/m² 1.3 1.3 1.3 1.3 1.3 1.3 2.5 2.5 3 thermal performance 3.1 Load deformation Temperature Tf1.8 °C Q/M $\geq$ 160 160 160 160 3.2 Load deformation Temperature Tf8.0 °C Q/M $\geq$ 115 115 115 110 3.3 Flammability (Chi Hot rod) BH - Q/M $\leq$ BH2-10 BH2-10 BH2-10 BH2-30

4 Electrical Properties 4.1 Dielectric loss Factor $\tan\delta_{100}$ - Q/M $\leq$ - 0.10 - -4.2 Dielectric loss Factor $\tan\delta_{1M}$ - Q/M $\leq$ - 0.10 - -4.3 Volume resistivity Rate ρ_{ov} ohm · cm Q/M $\geq$ - 1011 - -4.4 Surface resistivity Rate ρ_{os} ohm Q/M $\geq$ 109 1010 109 108 4.5 Electric strength Es2 kV/mm Q/M $\geq$ - 10 - -4.6 Proof tracking Index PTI - Q/M $\geq$ 125 125 125 125

Table 1 (continued)

Model. molded plastic GB/T 1404.1-2008-PF Property Unit Process A method maximum Least (WD30 + MD20) (WD40 + MD10) (WD30 + MD20), X, E (WD40 + MD10), X, E (WD30 + MD20), X, A (WD40 + MD10), X, A (LF20 + MD25) (LF30 + MD15)

5 Other properties

Water absorption

WW24

$\leq$ 100 100 100 150

Free ammonia

% Q/M $\leq$ - - 0.02 -

Note 1: The method of sample preparation and performance measurement, see GB/T 1404.2-2008 Table 3, Table 4, 3, 4 and 7.

Note 2: Taking into account the differences in the characteristics of the target range and injection molding materials, namely, test results and possible changes in the characteristics of the material itself implies a wide range of Wai difference between material and therefore has the same name, it should not be regarded as absolutely identical.

Note 3: 2.4,3.1 and mandatory energy projects and 4.6 behavior index value table.

aQ = compression molding.

M = injection molding.