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Plastics - Preparation of test specimens by machining

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Foreword

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

The translation method used in this standard is equivalent to ISO 2818.2018 "Machining and Preparation of Plastic Samples".

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

This standard is under the jurisdiction of the National Plastics Standardization Technical Committee (SAC/TC15).

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1 Scope

This standard specifies that the compression molding and injection molding plastic samples, extruded sheets, semi-finished plates or finished products shall be machined to make samples and test samples.

General rules and methods of such incisions.

In order to obtain the basis of reproducible machining and notch processing conditions, follow the following standard conditions. When there are relevant material specifications or specific tests

When the standard of the method is stipulated, it shall be implemented in accordance with the relevant material specification or the specific test method standard. If there is no specific operating procedure, the key part

The operating conditions are determined by agreement between the relevant parties.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

The following terms and definitions apply to this document.

ISO and IEC maintain a terminology database for standardization at the following address.

3.1 Milling

Note. In the milling process, the power of the tool includes a ring-shaped main motion and the appropriate feed motion of the workpiece. The rotation axis of the main motion is used to maintain the

The position of the machining tool is independent of the feed movement (see ISO 3855). The finished dumbbell specimens and rectangular specimens as well as the size of the notch are all available

To be prepared by milling.

3.1.1 Geometry (see ISO 3002-1 and Figure 1)

Note. This standard is only related to some details such as the precise geometric dimensions of the milling cutter in ISO 3002-1 and the given position of the corresponding tool of the workpiece.

3.1.1.1

Tool-cutting-edge angle

α

The angle between the cutting edge plane P_s of the sample measured on the back plane P_r of the tool and the assumed working plane P_f .

3.1.1.2

Tool back clearance

α_{pb}

The angle between the tool side surface A_{α} and the tool cutting edge plane P_s measured in the tool back plane P_p .

3.1.1.3

Tool side clearance

α_{pf}

The angle between the tool side surface A_{α} and the tool cutting edge plane P_s measured on the assumed working plane P_f .

3.5 Stamping of specimens of any shape made from thin plates

Note. In this method, under high pressure, a tool with a sharp edge of hard steel and parallel to the thin plate is used to punch a sample of any shape from the thin plate.

3.5.1 Geometry

3.5.1.1

Shape of stamping tool

The punching edge of the punching tool is located on a plane parallel to the plate, and the shape of the punching edge depends on the shape of the sample to be prepared.

Shape, size and required tolerances.

3.5.2 Force and movement of tools

3.5.2.1

Contact force

F_c

The value of the force applied to the punching tool perpendicular to the plane of the sheet.

Note. The unit is Newton (N).

3.5.2.2

Feed speed

v_f

The instantaneous speed at which the cutting edge of the punching tool feeds perpendicular to the plane of the plate.

Note. The unit is meter per minute (m/min).

4.1 The shape and state of the sample

This standard describes the processing methods for the following types of specimens.

---Rectangular spline;

---Spline with notched rectangle;

---Rectangular plate;

---Curve sample (such as dumbbell);

---plate.

The precise shape, size and tolerance of the sample shall comply with the test method required by the standard. Observe with a low-power magnifying glass (approximately 5 times) to obtain

There should be no obvious cracks, scratches or other defects on the surface and edges of the sample.

The rectangular spline should not be distorted, and the opposite sides should be parallel to each other. The surface and edges are free of scratches, dents, defects and distortions.