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Plastics—Methods of determining the density and relative density of non-cellular plastics

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Descriptors : plastics, density measurement

Reference number : **JIS K 7112 : 1999 (E)**

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS K 7112** : 1980 is replaced with **JIS K 7112** : 1999.
This revision has been prepared based on **ISO 1183** : 1987 *Plastics—Methods of determining the density and relative density of non-cellular plastics*.

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In the event of any doubts arising as to the contents, the original JIS is to be the final authority.

Plastics—Methods of determining the density and relative density of non-cellular plastics

Introduction This Japanese Industrial Standard has been prepared based on the first edition of **ISO 1183** *Plastics—Methods of determining the density and relative density of non-cellular plastics*, published in 1987, but a portion of the specifications (method 2 of **5.4.4.2.2**) is added to meet the actual circumstances in Japan.

1 Scope

1.1 This Standard specifies four methods for the determination of the density and relative density of non-cellular plastics in the form of sheet, film, tube, moulded objects, and moulding powders, granules and pellets.

— Method A

Immersion method for plastics in a finished condition, whether machined or otherwise formed (see **5.1.3**), but not powders.

— Method B

Pyknometer method for plastics in the form of powder, granules, pellets, flake, moulded articles reduced to small particles or liquid material.

Determination of density for liquid material is in accordance with annex 2.

— Method C

Titration method for plastics in forms similar to those required for method A, including pellets.

— Method D

Density gradient column method for plastics in forms similar to those required for method A, and including pellets. Density gradient columns are columns of liquid, the densities of which increase uniformly from top to bottom. They are particularly suited to measurement of small samples of products and to comparison of densities.

1.2 Density and relative density are used frequently, both to follow the variations in the physical structures of specimens and in calculation of the amount of material necessary to fill a given volume. Density is the preferred property relating the mass and volume of an object, specimen or material. These properties may also be useful in assessing uniformity among samples or specimens. These methods are designed to yield results accurate to at least 0.2 % without applying corrections for weighings in air, and to 0.05 % with such corrections.

1.3 Often the density of plastics will depend upon the methods employed in the preparation of test specimens. When this is the case, precise details of the methods of preparation shall be given; these are ordinarily included in the specifications for the material.