
**Pigments and extenders — Methods
of dispersion and assessment of
dispersibility in plastics —**

**Part 6:
Determination by film test**

*Pigments et matières de charge — Méthodes de dispersion et
évaluation de l'aptitude à la dispersion dans les plastiques —
Partie 6: Détermination par essai de film*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 256, *Pigments, dyestuffs and extenders*.

ISO 23900 consists of the following parts, under the general title *Pigments and extenders — Methods of dispersion and assessment of dispersibility in plastics*:

- *Part 1: General introduction*
- *Part 2: Determination of colouristic properties and ease of dispersion in plasticized polyvinyl chloride by two-roll milling*
- *Part 3: Determination of colouristic properties and ease of dispersion of black and colour pigments in polyethylene by two-roll milling*
- *Part 4: Determination of colouristic properties and ease of dispersion of white pigments in polyethylene by two-roll milling*
- *Part 5: Determination by filter pressure value test*
- *Part 6: Determination by film test*

Pigments and extenders — Methods of dispersion and assessment of dispersibility in plastics —

Part 6: Determination by film test

1 Scope

This part of ISO 23900 specifies a method assessing the degree of dispersion of colorants¹⁾ and/or extenders in a thermoplastic polymer.

The method is suitable for testing colorants and/or extenders in the form of concentrates or compounds in all polymers used for extrusion processes.

NOTE Defects such as gels, black specks, holes in the test film are not in the scope of this part of ISO 23900.

The film test result determined according to this method is valid only for the equipment, conditions and test polymer being used. The use of test conditions differing from those specified might give different results. The preparation methods of concentrates or compounds are not specified in this part of ISO 23900. The results obtained for individual colorants and/or extenders are therefore comparable only when the same conditions of preparation for concentrates or compounds and a comparable detection system are used.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1

speck

defect caused by agglomerates, aggregates and primary particles of the colorant and/or extender, impurities of basic test polymer

2.2

primary particle of the colorant

smallest single unit detectable by physical methods

Note 1 to entry: Suitable physical methods are, for example, optical and electron microscopy.

2.3

aggregate

particle comprising strongly bonded or fused particles where the resulting external surface area may be significantly smaller than the sum of calculated surface areas of the individual components

Note 1 to entry: The forces holding an aggregate together are strong forces, for example, covalent bonds, or those resulting from sintering or complex physical entanglement.

Note 2 to entry: Aggregates are also termed secondary particles and the original source particles are termed primary particles.

[SOURCE: ISO/TS 27687:2008, 3.3]

1) For the definition of colorant see ISO 4618:2014, 2.60 colouring material.