

**Pigments and extenders - Methods of dispersion and  
assessment of dispersability in plastics - Part 6:  
Determination by film test**

## EESTI STANDARDI EESSÕNA

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English Version

**Pigments and extenders - Methods of dispersion and  
assessment of dispersability 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

Pigmente und Füllstoffe - Dispergierv Verfahren und  
Beurteilung der Dispergierbarkeit in Kunststoffen - Teil 6:  
Bestimmung mit dem Folientest

This European Standard was approved by CEN on 8 September 2012.

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**Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

This document (EN 13900-6:2012) has been prepared by Technical Committee CEN/TC 298 "Pigments and extenders", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

EN 13900, *Pigments and extenders — Methods of dispersion and assessment of dispersibility in plastics*, contains the following parts:

- *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* (the present document).

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 1 Scope

This European Standard specifies a method assessing the degree of dispersion of colorants<sup>1)</sup> 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 like gels, black specks, holes in the test film etc. are not in the scope of this standard.

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 standard. 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]

**2.4**  
**agglomerate**  
collection of weakly bound particles or aggregates or mixtures of the two where the resulting external surface area is similar to the sum of the surface areas of the individual components

Note 1 to entry: The forces holding an agglomerate together are weak forces, for example van der Waals forces, or simple physical entanglement.

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1) For the definition of colorant see, ISO 4618:2006, 2.58 colouring material.