



**pro-K Fachgruppe**  
Thermoplastische Platten

Technical Brochure:  
*A process to classify the quality of  
surfaces extruded of defined branded  
goods without containing regrind*

## Preamble

The companies joined to the section for thermoplastic sheets, named “pro-K Industrieverband Halbzeuge und Konsumprodukte aus Kunststoff e.V.”, describe by means of the present technical data sheet a process to classify the quality of surfaces extruded of defined branded goods without containing regrind.

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### Wichtiger Hinweis:

Diese Ausarbeitung dient lediglich Informationszwecken. Die in dieser Ausarbeitung enthaltenen Informationen wurden nach derzeitigem Kenntnisstand und nach bestem Gewissen zusammengestellt. Der Autor und pro-K übernehmen jedoch keine Gewähr für die Richtigkeit und Vollständigkeit der Informationen. Jeder Leser muss sich daher selbst vergewissern, ob die Informationen für seine Zwecke zutreffend und geeignet sind.

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### Fachgruppe Thermoplastische Platten

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## 1. Applications

This test specification describes these criteria which are taken as a basis in order to classify the quality of surfaces extruded of defined branded goods free of regrind.

## 2. General information about the classification of surface defects

The surfaces are judged under defined test conditions. Defects which are “seen” under the test conditions during the control are marked and taken for classification. As a consequence irregularities which are not noticeable drop out of the classification.

If surface defects cannot be registered by this test specification, a limiting sample (judgement of colour and brilliance, grain) will be required.

## 3. Test conditions

The test conditions for sheets are defined under point 6.

Guidelines for a reproducible test:

- Distance of visual control: 80 cm
- Duration of judgement: 20 sec
- Lighting: Room with artificial light / TL84
- Dimensions of the sheets: approx. 1m<sup>2</sup>

## 4. Classification of defects depending on the position of the final application

Visible zone: Depends on the future application

Zone A:	Directly visible surface
Zone B:	Surfaces not in directly visible zones
Zone C:	Invisible surfaces

## 5. Criteria for judging surface defects

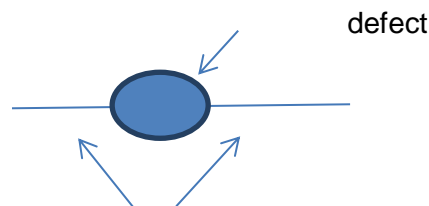
### 5.1 Countable defects

Big	mm	>1,5 - max.3
Medium	mm	>1 - 1,5
Small	mm	>0,5 - 1

The figures in mm correspond to the diameter of the defect or rather its longest extension.

Small extrusion lines which are caused by the defect cannot be taken into account.

For example:



The small lines along the extrusion direction shall not be taken into account and measured for the extent of the defect. Only the “core” of the defect will be measured and classified.

To these “defect cores” belong inhomogeneities like,

- Fish eyes
- Elevations and depressions
- Visible inclusions
- pores

The following two charts are the basis for the quality control of countable surface defects.

Chart no. 1 shows the allowed number of countable defects in the individual control surfaces per m<sup>2</sup>.

Chart no. 2 shows how much defects are acceptable within a zone of 100cm<sup>2</sup> of this control surface. This distinction is necessary as it can happen that all allowed defects are concentrated on a small zone of the surface, which leads to an optical pattern of defects which is generally not acceptable. Therefore chart 2 shows an additional classification of the allowed accumulation of defects within a surface of 100cm<sup>2</sup>.

## 5.2 Acceptable countable defects per square metre [m<sup>2</sup>]

Chart 1

Zone	Big	Medium	Small
A	2	2	4
B	3	4	8
C	4	6	12

## 5.3 Acceptable accumulation of defects

Chart 2

	Per 100 cm <sup>2</sup> (square)			Small pores Per 6cm <sup>2</sup> <sup>1)</sup>
Zone	Big	Medium	Small	
A	0 (1) <sup>2)</sup>	1	1	3
B	1	1	2	6
C	1	2	3	10

<sup>1</sup> Small pores (inhomogeneities) are tolerated if they do not seem disturbing.

<sup>2</sup> (1) One big defect or (1) one medium-sized defect together with (1) one small defect are acceptable.

## 5.4 Exceptions to the specified judgement

- a) Defects with an extent longer than 3mm are to be judged separately. A defect on the sheet having a weak influence on the total appearance shall be classified as acceptable.
- b) As well defects with a size of less than 3mm showing a striking colour difference to the base colour and being strikingly visible in a directly visible zone (Zone A) shall be judged separately.
- c) If a defect has such a negative effect on the total appearance of the sheet and is therefore unacceptable, it is possible that even defects smaller than 3mm can be classified unacceptable if they are very striking and different in colour.

## 6. Draft of test conditions

