

# Standard Surface Specification of Technical Glass

Definition according ISO 10110-7

		<b>Class A</b>	<b>Class B</b>	<b>Class C</b>	<b>Class D</b>
<b>Dimensional Classes</b> <b>Edge length max. [mm]</b> <b>Area max. [mm<sup>2</sup>]</b>		<b>Scratches</b> max. number x width/cumulated length in mm			
		<b>Digs</b> max. number x size*			
<b>1</b>	<b>25 mm</b> 625 mm <sup>2</sup>	none	1 x 0,04/2,0	2 x 0,04/5,0	1 x 0,063/2,5
		<b>1 x 0,16</b>	<b>1 x 0,25</b>	<b>2 x 0,25</b>	<b>1 x 0,40</b>
<b>2</b>	<b>50 mm</b> 2500 mm <sup>2</sup>	none	1 x 0,04/3,0	2 x 0,04/6,0	2 x 0,063/5,0
		<b>3 x 0,16</b>	<b>2 x 0,25</b>	<b>3 x 0,25</b>	<b>2 x 0,40</b>
<b>3</b>	<b>100 mm</b> 10'000 mm <sup>2</sup> / 0,01 m <sup>2</sup>	1 x 0,04/1,0	2 x 0,04/5,0	1 x 0,063/2,5	1 x 0,1/4,0
		<b>4 x 0,16</b>	<b>3 x 0,25</b>	<b>1 x 0,40</b>	<b>1 x 0,63</b>
<b>4</b>	<b>150 mm</b> 22'500 mm <sup>2</sup> / 0,0225 m <sup>2</sup>	1 x 0,04/2,0	<b>1 x 0,063/2,5</b>	2 x 0,063/5,0	2 x 0,1/8,0
		<b>1 x 0,25</b>	<b>1 x 0,40</b>	<b>2 x 0,40</b>	<b>2 x 0,63</b>
<b>5</b>	<b>200 mm</b> 40'000 mm <sup>2</sup> / 0,04 m <sup>2</sup>	1 x 0,04/3,0	2 x 0,063/5,0	1 x 0,1/4,0	3 x 0,1/12,0
		<b>2 x 0,25</b>	<b>2 x 0,40</b>	<b>1 x 0,63</b>	<b>3 x 0,63</b>
<b>6</b>	<b>250 mm</b> 62'500 mm <sup>2</sup> / 0,0625 m <sup>2</sup>	1 x 0,063/2,5	1 x 0,1/4,0	1 x 0,16/6,0	2 x 0,16/12,0
		<b>1 x 0,40</b>	<b>1 x 0,63</b>	<b>1 x 1,00</b>	<b>2 x 1,00</b>
<b>7</b>	<b>316 mm</b> 100'000 mm <sup>2</sup> / 0,1 m <sup>2</sup>	2 x 0,063/5,0	2 x 0,1/8,0	2 x 0,16/12,0	3 x 0,16/18,0
		<b>2 x 0,40</b>	<b>2 x 0,63</b>	<b>2 x 1,00</b>	<b>3 x 1,00</b>

**Note: Areas  $\geq 0,1 \text{ m}^2$  (Class 8), see page 2 of this specification**

- Dig Size =  $\sqrt{\text{length} \cdot \text{width}}$
- Help to establish defects: EuropTec table for surface defects
- Scratches and Digs are regarded as cumulative  
Example: Class B5: 2 x 0,063 / 5,0 Scratches and 2 x 0,40 Digs are acceptable
- Defects below the limits are disregarded.  
Example: Class C4: all Digs < 0,4 mm are accepted and are not regarded as defects.
- A concentration of defects is not allowed, Definition in accordance with DIN ISO 10110-7  
Example: Class C4: a min. distance between two defects of 25 mm is acceptable.  
Example: Class C8: a min. distance between two defects of 180 mm is acceptable
- Heat tempered glass is additionally inspected according to DIN EN 12150.
- Removable marks of paper are not regarded as defects
- Edge Chips / chamfered Edges: 5 x 1,0 mm; ground / polished edges: 5 x 0,4 mm

#### Heat marks on polished edges

- Width max. 0,15 mm, length max. 4,0 mm, max. 2 per 500 mm, min. distance > 40 mm

#### Recommendation:

- In case of hard contrast, defects are to be specified one class higher (white in front of dark blue class B instead of Class C).
- Generally specify etched, coated, laminated or printed glass one quality-class lower (C instead of B) in order to optimize product cost.

#### Condition of Inspection

Inspection in transmission and reflection, printed glasses always from the viewer's side.

Inspection angle 90°

Inspection time up to Class 7: max. 15 sec. starting at Class 8: max. 45 sec.

Distance up to Class 7: 500 mm, starting at Class 8: 1000 mm.

Max. 1000 Lux in front of black background, angle of inspection 45 degrees, laminates additionally in front of a bright background

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<b>Edge length max. [mm]</b>		<b>Digs</b> max. number x size			
<b>Area max. [mm<sup>2</sup>]</b>					
<b>8</b>	For <b>32"</b> displays (approx. 800 x 435 mm) 350 000 mm <sup>2</sup> / 0,35 m <sup>2</sup>	7 x 0,063/30,0	7 x 0,1/ 24,0	7 x 0,16/42,0	10 x 0,16/90,0
		<b>6 x 0,4</b>	<b>7 x 0,63</b>	<b>7 x 1,0</b>	<b>9 x 1,0</b>
<b>9</b>	For <b>40"</b> displays (approx. 1000 x 530 mm) 530 000 mm <sup>2</sup> / 0,53 m <sup>2</sup>	2 x 0,1/ 8,0	2 x 0,16/8,0	10x 0,16/60,0	2x 0,25/16,0
		<b>3 x 0,63</b>	<b>3 x 1,0</b>	<b>10 x 1,0</b>	<b>2 x 1,6</b>
<b>10</b>	For <b>46"</b> displays (approx. 1130 x 635 mm) 712 000 mm <sup>2</sup> / 0,712 m <sup>2</sup>	3 x 0,1/ 12,0	3 x 0,16/12,0	2 x 0,25/ 16,0	3 x 0,25/ 32,0
		<b>5 x 0,63</b>	<b>5 x 1,0</b>	<b>2 x 1,6</b>	<b>3 x 1,6</b>
<b>11</b>	For <b>50"</b> displays (approx. 1200 x 650 mm) 780 000 mm <sup>2</sup> / 0,78 m <sup>2</sup>	4 x 0,1/ 16,0	4 x 0,16/ 18,0	3 x 0,25/ 24,0	4 x 0,25/ 64,0
		<b>6 x 0,63</b>	<b>6 x 1,0</b>	<b>3 x 1,6</b>	<b>4 x 1,6</b>
<b>12</b>	For <b>52"</b> displays (approx. 1300 x 680 mm) 884 000 mm <sup>2</sup> / 0,884 m <sup>2</sup>	2 x 0,16/ 8,0	5 x 0,16/ 32,0	5 x 0,25/ 48,0	6 x 0,25/ 100,0
		<b>3 x 1,0</b>	<b>7 x 1,0</b>	<b>4 x 1,6</b>	<b>5 x 1,6</b>
<b>13</b>	For <b>65"</b> displays (appr. 1600 x 1000 mm) 1.600.000 mm <sup>2</sup> / 1,6 m <sup>2</sup>	4 x 0,16/ 16,0	3 x 0,25/ 32,0	8 x 0,25/ 64,0	12 x 0,25/ 120,0
		<b>5 x 1,0</b>	<b>8 x 1,0</b>	<b>5 x 1,6</b>	<b>8 x 1,6</b>

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