

Standard Surface Specification of Technical Glass

Definition according ISO 10110-7

		Class A	Class B	Class C	Class D
Dimensional Classes Edge length max. [mm] Area max. [mm²]		Scratches max. number x width/cumulated length in mm			
		Digs max. number x size*			
1	25 mm 625 mm ²	none	1 x 0,04/2,0	2 x 0,04/5,0	1 x 0,063/2,5
		1 x 0,16	1 x 0,25	2 x 0,25	1 x 0,40
2	50 mm 2500 mm ²	none	1 x 0,04/3,0	2 x 0,04/6,0	2 x 0,063/5,0
		3 x 0,16	2 x 0,25	3 x 0,25	2 x 0,40
3	100 mm 10'000 mm ² / 0,01 m ²	1 x 0,04/1,0	2 x 0,04/5,0	1 x 0,063/2,5	1 x 0,1/4,0
		4 x 0,16	3 x 0,25	1 x 0,40	1 x 0,63
4	150 mm 22'500 mm ² / 0,0225 m ²	1 x 0,04/2,0	1 x 0,063/2,5	2 x 0,063/5,0	2 x 0,1/8,0
		1 x 0,25	1 x 0,40	2 x 0,40	2 x 0,63
5	200 mm 40'000 mm ² / 0,04 m ²	1 x 0,04/3,0	2 x 0,063/5,0	1 x 0,1/4,0	3 x 0,1/12,0
		2 x 0,25	2 x 0,40	1 x 0,63	3 x 0,63
6	250 mm 62'500 mm ² / 0,0625 m ²	1 x 0,063/2,5	1 x 0,1/4,0	1 x 0,16/6,0	2 x 0,16/12,0
		1 x 0,40	1 x 0,63	1 x 1,00	2 x 1,00
7	316 mm 100'000 mm ² / 0,1 m ²	2 x 0,063/5,0	2 x 0,1/8,0	2 x 0,16/12,0	3 x 0,16/18,0
		2 x 0,40	2 x 0,63	2 x 1,00	3 x 1,00

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
- Effects below the limits are disregarded
Example: Class C4: all effects < 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 22 mm is acceptable
Example: Class C8: a min. distance between two defects of 70 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 processing 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)

Condition of Inspection

Inspection in transmission at 90°, inspection angle in reflection at 45°.
Inspection always from the viewer's side.
Inspection time up to class 7 max. 15 sec., class 8 or higher max. 45 sec.
Distance up to class 7: 500 mm starting at class 8: 1000 mm.
800-1000 Lux in front of black background.

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Dimensional Classes		Scratches max. number x width/cumulated length in mm			
Edge length max. [mm]		Digs max. number x size			
Area max. [mm²]					
8	For 32" displays (approx. 800 x 435 mm) 350 000 mm ² / 0,35 m ²	7 x 0,063/30,0	7 x 0,1/ 24,0	7 x 0,16/42,0	10 x 0,16/90,0
		6 x 0,4	7 x 0,63	7 x 1,0	9 x 1,0
9	For 40" displays (approx. 1000 x 530 mm) 530 000 mm ² / 0,53 m ²	2 x 0,1/ 8,0	2 x 0,16/8,0	10x 0,16/60,0	2x 0,25/16,0
		3 x 0,63	3 x 1,0	10 x 1,0	2 x 1,6
10	For 46" displays (approx. 1130 x 635 mm) 712 000 mm ² / 0,712 m ²	3 x 0,1/ 12,0	3 x 0,16/12,0	2 x 0,25/ 16,0	3 x 0,25/ 32,0
		5 x 0,63	5 x 1,0	2 x 1,6	3 x 1,6
11	For 50" displays (approx. 1200 x 650 mm) 780 000 mm ² / 0,78 m ²	4 x 0,1/ 16,0	4 x 0,16/ 18,0	3 x 0,25/ 24,0	4 x 0,25/ 64,0
		6 x 0,63	6 x 1,0	3 x 1,6	4 x 1,6
12	For 52" displays (approx. 1300 x 680 mm) 884 000 mm ² / 0,884 m ²	2 x 0,16/ 8,0	5 x 0,16/ 32,0	5 x 0,25/ 48,0	6 x 0,25/ 100,0
		3 x 1,0	7 x 1,0	4 x 1,6	5 x 1,6
13	For 65" displays (appr. 1600 x 1000 mm) 1.600.000 mm ² / 1,6 m ²	4 x 0,16/ 16,0	3 x 0,25/ 32,0	8 x 0,25/ 64,0	12 x 0,25/ 120,0
		5 x 1,0	8 x 1,0	5 x 1,6	8 x 1,6

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