

# BASIC GUIDELINES FOR VISUAL QUALITY OF INSULATING GLASS UNITS

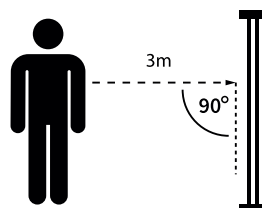
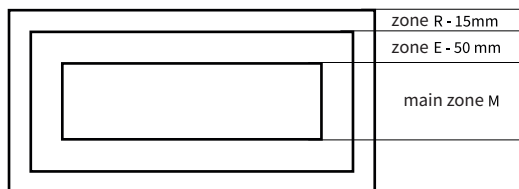
## 1. Observation conditions

The panes shall be examined in transmission and not in reflection.

The insulating glass units shall be observed at a distance of not less than 3 m from the inside to the outside and at a viewing angle as perpendicular to the glass surface as possible for up to one minute per m<sup>2</sup>. The assessment is carried out under diffuse daylight conditions (e.g. overcast sky), without direct sunlight or artificial lighting.

**The assessment should be made looking through the glass, not at the glass.**

### Glass pane defect zones



## 2. Allowable number of spots faults, residue spots and stains

Zone	Dimensions and type Ø[mm]	Pane area S [m <sup>2</sup> ]	
		S ≤ 1	1 < S
R	All	No limitation	
E	Spots Ø ≤ 1	No limitation	
	Spots 1 < Ø ≤ 3	4	1 per m of perimeter
	Stain Ø ≤ 17	1	
	Spots Ø > 3 and stain Ø > 17	Maximum 1	
M	Spots Ø ≤ 1	Maximum 3 in each area of Ø ≤ 20 cm	
	Spots 1 < Ø ≤ 3	Maximum 2 in each area of Ø ≤ 20 cm	
	Spots Ø > 3 and stain Ø > 17	Not accepted	

### Tolerance on spacer straightness

a) For double glazing the tolerance on the spacer straightness is 4 mm up to a length of 3,5 m.

b) The permissible deviation of the spacer(s) in relation to the parallel straight glass edge or to other spacers (e.g. in triple glazing) is 3 mm up to an edge length of 2,5 m.

## 3. Allowable number of linear / extended faults

Zone	Individual lengths [mm]	Total of individual lengths [mm]
R	No limitation	
E	≤ 30	≤ 90
M	≤ 15	≤ 45

### Edge defects

External shallow damage to the edge or conchoidal fractures which do not affect the glass strength and which do not project beyond the width of the edge seal are acceptable.

The allowable number of discrepancies defined in table 3 is increased by 25 % per additional glass component (in multiple glazing or in a laminated glass component). The number of allowable defects is always rounded up.

### EXAMPLES:

1. Triple glazed unit made of 3 monolithic glass panes: the number of allowable faults of table 3 is multiplied by 1,25.
2. Double glazed unit made of two laminated glass with 2 glass components each: the number of allowable faults table 3 is multiplied by 1,5.

Requirements in accordance with EN 1279-1:2018



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