

Corning® EAGLE²⁰⁰⁰™ Display Grade Glass Substrates Product Information



Display
Technologies

PIE 201

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The following is a general description of the quality criteria of **Corning EAGLE²⁰⁰⁰ Display Grade** substrates.

Display Grade substrates are sold F.O.B.: Tokyo, Japan. More detailed information and pricing can be obtained by contacting the Corning Display Technologies. See our locations and contact information on the last page.

1. Specifications

Product description	5K lux	10K Lux
1.1 Dimensional Criteria (see 2.1 – Chart 1)		
1. Maximum size	1500 x 1800 mm	1500 x 1800 mm
2. Length/width tolerances	$\pm 0.20 (\leq 400)$ mm $\pm 0.30 (\leq 470)$ mm $\pm 0.35 (\leq 500)$ mm $\pm 0.40 (\leq 650)$ mm $\pm 0.50 (\leq 1000)$ mm $\pm 0.60 (\leq 1250)$ mm $\pm 1.00 (\leq 1800)$ mm	$\pm 0.20 (\leq 400)$ mm $\pm 0.30 (\leq 470)$ mm $\pm 0.35 (\leq 500)$ mm $\pm 0.40 (\leq 650)$ mm $\pm 0.50 (\leq 1100)$ mm $\pm 0.60 (\leq 1250)$ mm $\pm 1.00 (\leq 1800)$ mm
3. Thicknesses	0.7 ± 0.07 mm 0.635 ± 0.04 mm 0.5 ± 0.05 mm	0.7 ± 0.07 mm 0.635 ± 0.04 mm 0.5 ± 0.05 mm

	5K Lux	10K Lux
4. Thickness Range (150mm Moving Window)	≤ 20 μm	≤ 20 μm
5. Edges	Radius with a bevel width of 0.1 - 0.6 mm Radius with a bevel width of 0.05 - 0.5 mm (0.5t)	
6. Corner cuts	1.5 ± 1.0 mm	1.5 ± 1.0 mm
7. Orientation corner(s)		
Rectangles	4 x 4 ± 1.0 mm	4 x 4 ± 1.0 mm
Squares	2 ± 1.0 x 5 ± 1.5 mm	2 ± 1.0 x 5 ± 1.5 mm
8. Squareness	≤ 0.15% of the longer substrate edge	
9. Streak (pattern surface)	Maximum height or depth will be < 0.1 μm / 2 mm	
10. Warp (Longer Edge)		
≤ 400mm	≤ 0.40 mm	≤ 0.40 mm
> 400mm	≤ 0.1%	≤ 0.1%
11. Waviness		
Cut off: 0.8–8 mm	≤ 0.07 μm	≤ 0.07 μm
Cut off: 0.8-25 mm	≤ 0.35 μm	≤ 0.35 μm

1.2 Visual Fault Limits (see 2.2 - Chart 2)

1. Scratch & Stain		
Pattern surface	None visible using 5K lux	None visible using 10K lux
Back surface	1.5K Limit Sample using 1.5K lux	1.5K Limit Sample using 1.5K lux
2. Inclusions	≤ 0.1 mm	≤ 0.1 mm
3. Edge chips	≤ 0.5 mm	≤ 0.5 mm
4. Edge cracks	None visible using 1.5K lux	None visible using 1.5K lux

1.3 Packaging

Polyethylene-foam corner brackets or polypropylene slotted cases

1.4 Quality Area

Scratch, stain and inclusion fault criteria apply to all except the border area on each substrate with a longer dimension as follows:

5 mm	(< 670 mm longer side)
6 mm – 10 mm	(< 830 mm longer side)
10 mm	(< 920 mm longer side)
15 mm	(< 1800 mm longer side)

1.5 Quality Assurance

1. Quality level: Mil-Std-105E
2. Sampling plan: Normal inspection, single sampling
3. Inspection level: Normal inspection, level 1

4. AQL Dimension criteria - AQL 1.0%
 Visual criteria - 100% inspection in process –
 AQL 2.5%

2. Remarks

2.1 Lot Numbering

Product Code
 58XXXX

Lot Number
 XXXXXX or XXXX - XXX

2.2 Inspection Equipment and Methods

Chart 1 – Dimensional Measurement

	Size	Thickness	Chamfer	Corner Cut	Orientation Corner	Squareness	Warp	Waviness	Streak
Laser gauge	X	X				X			
Calipers	X								
Micrometer		X							
Scale loupe (x10)			X	X	X				
Squareness gauge						X			
Feeler gauge							X		
Profilometer								X	
Xenon shadow graph									X

Chart 2 – Visual Inspection

	Pattern surface	Back surface	Inclusions	Chips	Cracks
Environment	Darkened Clean Room				
Light source	Halogen (10K lux), Halogen (5K lux) or Fluorescent (1.5K lux)				
Brightness	5K or 10K lux	1.5K lux	1.5K lux	1.5K lux	1.5K lux
Method	Unaided eyes – reflected light				
Approximate inspection times For 300 x 300 mm	Halogen – 20 seconds Fluorescent – 10 seconds				

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