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CNCGLASS TECHNICAL NOTE

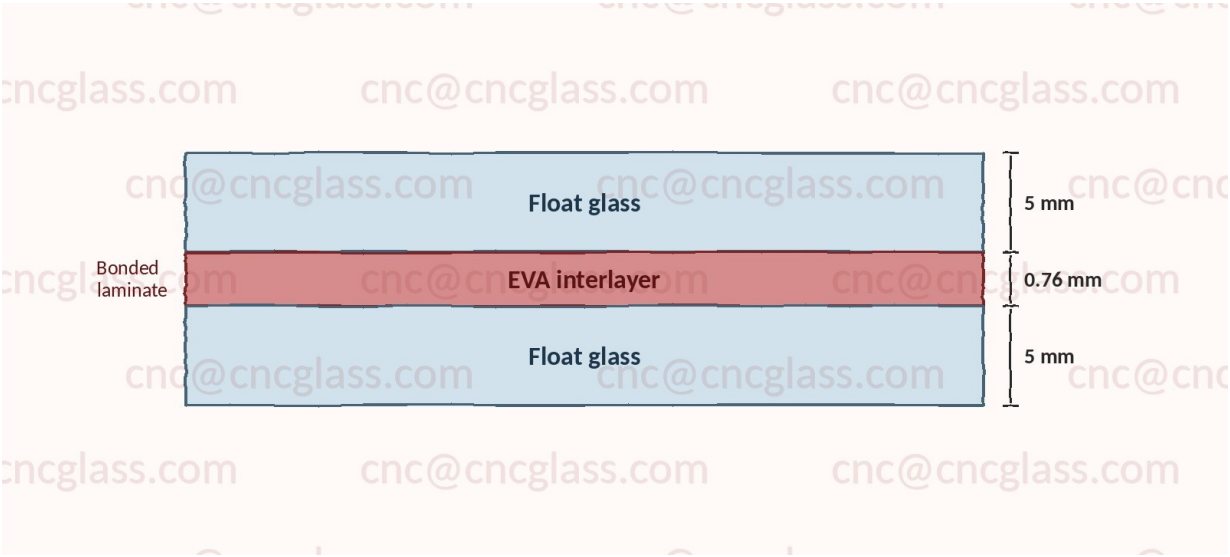
CNCGLASS EVA Laminated Glass — 5 + 0.76 + 5 mm, GB 9962

CNCGLASS EVA laminated glass, 5 mm float + 0.76 mm EVA + 5 mm float (10.76 mm), was evaluated to GB 9962-1999. High-temperature resistance, radiation resistance, resistance to humidity, ball-impact peeling and shot-bag impact all conformed. The shot-bag impact classification is II-1.

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Construction and scope

The product is a conventional clear EVA safety laminate: two plies of 5 mm float glass bonded with a 0.76 mm EVA interlayer, giving a nominal 10.76 mm makeup. Specimen formats used for the several items were 1938 mm × 874 mm, 300 mm × 300 mm, 610 mm × 610 mm and 300 mm × 76 mm, all in the same 5 + 0.76 + 5 mm construction. The governing standard is GB 9962-1999. Every item in the evaluation conformed.



Laminated-glass construction: 5 mm float / 0.76 mm EVA interlayer / 5 mm float (10.76 mm).

High-temperature resistance and resistance to humidity

High-temperature resistance was evaluated in a boiling chamber on three 300 mm × 300 mm × 10.76 mm specimens. After the boil, the thickness of each specimen remained 10.76 mm and the recorded status was “no changes”. The item passed. The criterion allows cracks to appear, but no bubbles or other defects beyond 13 mm from the edges, and no cracks developed during the test.

Resistance to humidity was evaluated on three 300 mm × 300 mm × 10.76 mm specimens. Thickness remained 10.76 mm and the recorded status was again “no changes”. The item passed.

Radiation resistance

Radiation resistance was evaluated on 300 mm × 76 mm × 10.76 mm specimens. The criterion is that (T1 − T2) / T1 × 100 % shall not exceed 10 %, and that there shall be no remarkable change in colour, bubbles or turbidity when viewed against a white background. All three specimens passed, each with a relative change of 0.2 % and no visual change.

Specimen	Thickness (mm)	T1 before (%)	T2 after (%)	(T1−T2)/T1 × 100 %	Visual
1	10.76	85.9	85.7	0.2 %	No remarkable change
2	10.76	85.7	85.5	0.2 %	No remarkable change
3	10.76	86.0	85.8	0.2 %	No remarkable change

Ball-impact peeling

Ball-impact peeling was evaluated on 610 mm × 610 mm specimens with a 1040 g ball. The requirement is that the interlayer shall not be torn or exposed by splinters detached from the test piece. All six specimens passed. Drop heights and fracture patterns differed, as is usual for this item; what matters for conformity is that the interlayer remained intact.

Specimen	Thickness (mm)	Drop height (mm)	Observation
1	10.11	3000	Interlayer not torn or exposed; one side broke
2	10.27	1500	Interlayer not torn or exposed; one side broke
3	10.24	1500	Interlayer not torn or exposed; one side broke
4	10.22	1200	Interlayer not torn or exposed; one side broke
5	10.27	2400	Interlayer not torn or exposed; both sides broke
6	10.28	2400	Interlayer not torn or exposed; one side broke

Shot-bag impact

Shot-bag impact was evaluated on four specimens of about 1930 mm × 864 mm × 10.76 mm, using a 45 ± 0.1 kg bag dropped from 1200 mm. On every specimen both sides broke, but no penetration opening appeared. The item passed. The recorded classification is II-1. Measured thicknesses were 10.15 mm, 10.57 mm, 10.08 mm and 10.05 mm.

Specimen	Thickness (mm)	Drop height (mm)	Observation
1	10.15	1200	Both sides broke; no penetration opening
2	10.57	1200	Both sides broke; no penetration opening
3	10.08	1200	Both sides broke; no penetration opening
4	10.05	1200	Both sides broke; no penetration opening

Commentary for laminated-glass use

GB 9962-1999 remains a widely cited Chinese product standard for laminated glass. A 5 + 0.76 + 5 mm EVA makeup is a workhorse architectural construction: it is thick enough for many doors, partitions and window sashes, and the 0.76 mm EVA interlayer is a standard gauge that fabricators already process on vacuum or autoclave lines. The durability items — boiling, humidity and radiation — show a stable bond and a very small optical shift (0.2 % relative), well inside the 10 % allowance.

The impact items describe residual integrity after breakage, which is the safety function of the laminate. In ball-impact peeling, glass fracture at several drop heights is expected; the pass condition is that the EVA film is not torn and is not left exposed by detached splinters. In shot-bag impact at the 1200 mm Class II-1 drop, both plies may break, but the bag must not open a penetration through the pane. That is precisely the behaviour recorded here, and it is why this

construction can be specified as CNCGLASS EVA laminated glass, 5 + 0.76 + 5 mm, classified II-1 under GB 9962-1999. Other glass thicknesses or interlayer gauges should be treated as distinct product types.

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