CNCGLASS

CNC Ucolin Interlayer Technology Co., Ltd.
SHENZHEN, GD, CHINA

TECHNICAL NOTE & PERFORMANCE SUMMARY

Ionoplast Interlayer Laminated Safety Glass — BS 6206 Class A Soft-Body Impact Performance

1. Purpose and Scope

This technical note presents the soft-body impact performance of architectural laminated safety glass fabricated with the **CNCGLASS ionoplast interlayer**, a stiff ionic-type interlayer engineered for high structural performance and post-breakage fragment retention. The tested laminated construction — two plies of 8 mm annealed glass bonded by a 1.52 mm CNCGLASS ionoplast interlayer — was evaluated against BS 6206:1981, *Specification for impact performance requirements for flat safety glass and safety plastics for use in buildings*. The construction achieved the highest impact classification defined by the standard, **Class A**.

2. Panel Construction

Laminated makeup	8 mm annealed glass + 1.52 mm CNCGLASS ionoplast interlayer + 8 mm annealed glass
Measured overall thickness	17.53 – 17.55 mm
Test panel dimensions	865 mm × 1930 mm
Number of test panels	4

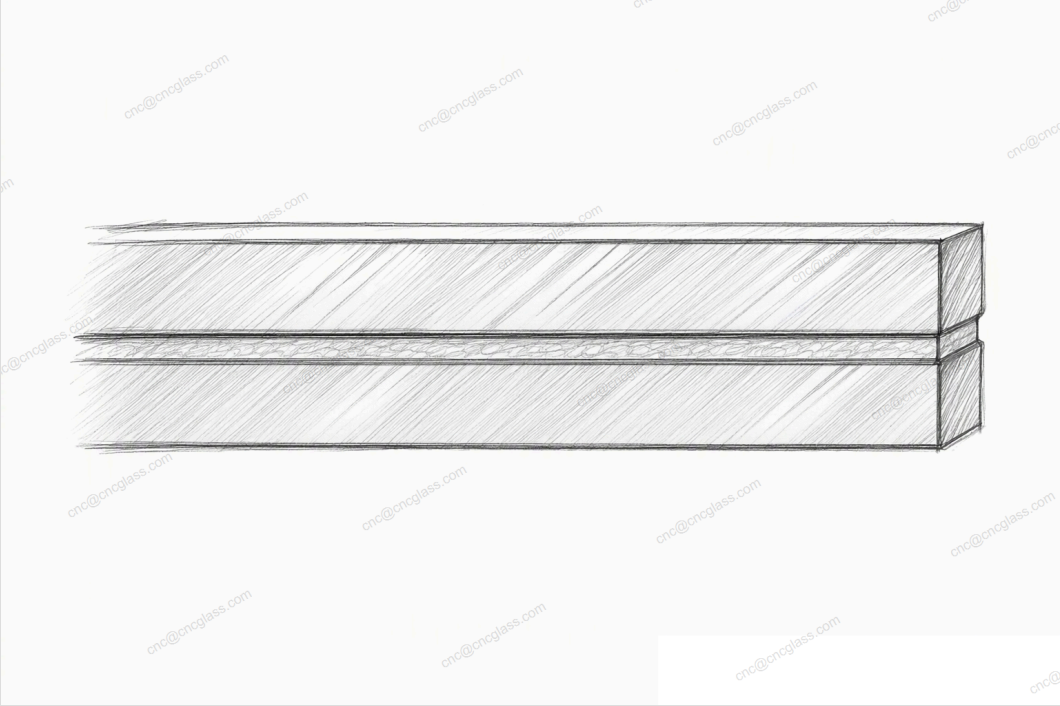


Fig. 1 — Cross-section of the laminated construction: two 8 mm annealed glass plies bonded by a 1.52 mm ionoplast interlayer core.

3. Impact Test Method

Soft-body impact testing was carried out in accordance with BS 6206:1981, Appendix A, Clause A.4. Each full-size panel was clamped in a rigid test frame and struck at mid-span by the standard impactor — a suspended soft bag filled with lead shot — released from successive drop heights of 305 mm, 457 mm and 1,219 mm. The behaviour of every panel was recorded at each drop height, and the impact classification was assigned according to the highest drop height satisfied.

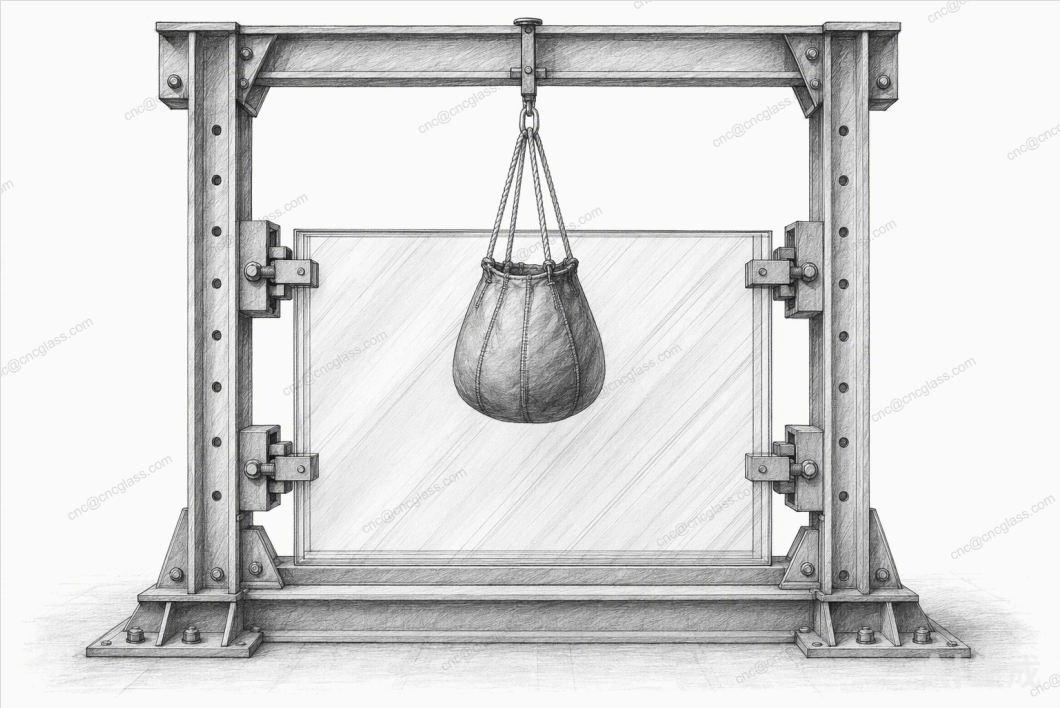


Fig. 2 — Soft-body (shot bag) impact test: the laminated panel is clamped in a rigid frame and struck by a lead-shot bag dropped from a controlled height.

4. Test Results

Impact at 305 mm drop height

Panel No.	Dimensions (mm)	Thickness (mm)	Behaviour on Impact	Classification
1	865 × 1930	17.55	No breakage	C
2	865 × 1930	17.54	No breakage	C
3	865 × 1930	17.53	No breakage	C
4	865 × 1930	17.55	No breakage	C

Impact at 457 mm drop height

Panel No.	Dimensions (mm)	Thickness (mm)	Behaviour on Impact	Classification
1	865 × 1930	17.55	No breakage	B
2	865 × 1930	17.54	No breakage	B
3	865 × 1930	17.53	No breakage	B
4	865 × 1930	17.55	No breakage	B

Impact at 1,219 mm drop height

Panel No.	Dimensions (mm)	Thickness (mm)	Behaviour on Impact	Classification
1	865 × 1930	17.55	No breakage	A
2	865 × 1930	17.54	Broke safely	A
3	865 × 1930	17.53	Broke safely	A
4	865 × 1930	17.55	Broke safely	A

5. Fracture Behaviour at 1,219 mm

At the 1,219 mm drop height, one panel withstood the impact without breakage. The remaining three panels fractured in a fully safe manner: both 8 mm annealed glass plies developed numerous cracks, yet the ionoplast interlayer held the construction intact. No shear displacement or opening developed within the body of any panel, and the mass of particles detached within three minutes of impact did not exceed the mass equivalent of 10,000 mm² of the original panel, while the largest single detached particle weighed less than the mass equivalent of 4,400 mm². This behaviour satisfies the break-safe requirement of BS 6206:1981, Clause 5.3(b).

6. Classification and Conclusion

The laminated construction of 8 mm annealed glass + 1.52 mm CNCGLASS ionoplast interlayer + 8 mm annealed glass satisfies the impact performance requirements of BS 6206:1981 at the maximum drop height of 1,219 mm.

Impact performance classification: Class A

Where panels did fracture under the most severe impact, the ionoplast interlayer retained all glass fragments and prevented any through-opening, providing the fracture-retention behaviour required of laminated safety glazing in critical building applications such as doors, screens, balustrades and overhead glazing.

This document is a CNCGLASS technical note and performance summary. It is not a third-party test certificate or a certificate of conformity, and it does not authorise the use of any third-party laboratory mark.

CNCGLASS · CNC Ucolin Interlayer Technology Co., Ltd. · SHENZHEN, GD, CHINA
Peter Lin · cnc@cncGlass.com · WhatsApp / Mobile +86 15013829504 · WeChat wecan365 · www.cncglass.com