

WIND LOAD & DEFLECTION CHECK

Structural Glass Adequacy — ASTM E1300 Analysis

Report Reference	IPH/KC/R3/2026
Prepared by	IPH Glasses Mahavir Glass Enterprise
Source	Gujarat Guardian Limited — Load Resistance & Deflection Check
Analysis Standard	ASTM E 1300 NBC India 2016 (Deflection)
Date	June 2026
Application	Architectural Façade — Laminated IGU

1. Overview

IPH Glasses provides wind load and deflection analyses for all significant glazing configurations as part of our technical advisory service. The analysis presented in this report has been conducted by Gujarat Guardian Limited using ASTM E1300 methodology. Deflection criteria are per the National Building Code of India 2016. Results confirm structural adequacy of the proposed glass combination for the specified panel dimensions and design wind load.

2. Panel & Loading Parameters

Max Panel Dimensions	1450 mm (Width) × 2900 mm (Height)
Proposed Glass Combination	6mm HS + 1.52mm PVB + 6mm HS + 12mm Air + 8mm FT
Design Wind Load	2.00 kPa
Installation	90° Vertical
Support Condition	4-sided support
Area of Glass Panel (L × B)	4.21 m²
Aspect Ratio (L/B)	2.00

3. Load Resistance Analysis

Component	Glass Thickness (mm)	Type	Load Resistance (kPa)
Outer Lite (Laminated)	13.52 (6+1.52 PVB+6)	HS	6.15
Inner Lite	8	FT	29.23
DGU Assembly Load Resistance	13.52-10-8		6.149 kPa

The DGU assembly load resistance of 6.149 kPa exceeds the design wind load of 2.00 kPa. Load resistance check: PASSED.

4. Load Share & Deflection Analysis

Load Share Factor — Outer Glass	0.805
Load Share Factor — Inner Glass	0.195
Wind Load on Outer Glass	1.61 kPa
Wind Load on Inner Glass	0.39 kPa
Load × Area² — Outer Glass	28.47 kN·m²

Load × Area ² — Inner Glass	6.90 kN·m ²
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Component	Calculated Deflection (mm)	Allowable Limit (Lower of 19mm or L/90)	Status
Outer Glass (Laminated HS)	12 mm	16.11 mm (L/90)	✓ PASS
Inner Glass (FT)	9.5 mm	16.11 mm (L/90)	✓ PASS

5. Conclusion

The glass combination of 6 + 1.52 PVB + 6 + 12 Air + 8 mm DGU has been evaluated per ASTM E1300. The assembly demonstrates adequate load resistance (6.149 kPa against a design wind load of 2.00 kPa) and both outer and inner lites remain within the allowable deflection limit of 16.11 mm (L/90). **The glass design is confirmed SAFE for the specified panel dimensions and wind load.**

6. Disclaimer

This analysis is provided by Gujarat Guardian Limited and is based on ASTM E1300 glass thickness evaluation methodology. Deflection criteria are applied per the National Building Code of India 2016. The information is a general recommendation. Gujarat Guardian Limited disclaims all liability arising from any inaccuracy or omission from this recommendation. It is the responsibility of users to ensure the intended application is appropriate and complies with all relevant laws, regulations, standards, and codes of practice. IPH Glasses distributes this analysis to clients for design reference purposes.

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