



## **10 kg Charge Weight at 10 meter Standoff - No Film**

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**Prepared by:**

**G. Nick Routh  
Technical Services Representative  
Saint-Gobain Solar Gard  
Email: [nick.routh@saint-gobain.com](mailto:nick.routh@saint-gobain.com)  
Phone: 727-437-1033  
Fax: 727-437-1002**

**Note: This report was produced using *WINGARD LE 2*. The developers of this software (GSA and Applied Research Associates, Inc.) highly recommend that all blast resistant and hazard mitigating window designs and analyses be performed by trained and qualified blast consulting personnel. The use of this software and all results are controlled by the software license agreement and associated disclaimers.**

**PROPRIETARY**

**Ian - Egyptian Client 10kg. @ 10 meters**

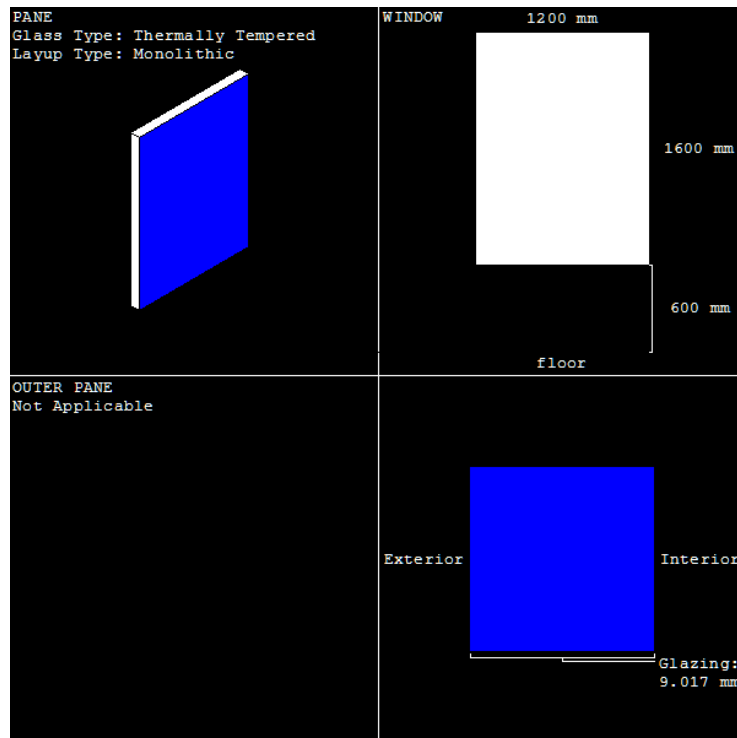
This calculation was performed using **WINGARD LE 2.0**. The window system is described as follows:

Height	1600	mm
Width	1200	mm
Sill Height	600	mm
Glazing Bite Specified	Calculated	
Glazing Bite Required	12.7	mm

The glazing for this window is a single pane unit. The glazing is as follows:

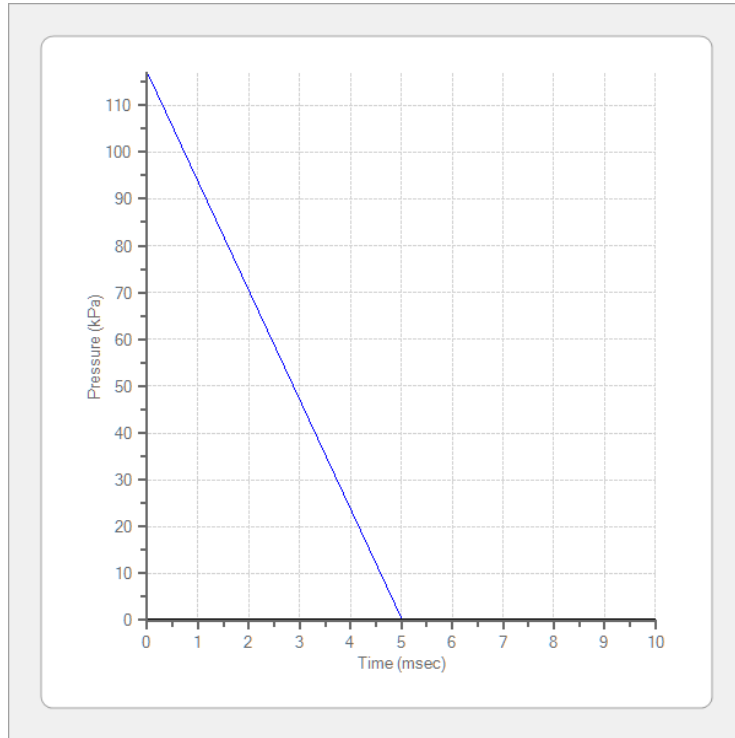
9.017 mm                      Thermally Tempered                      Monolithic

An illustration of this layup is shown below:



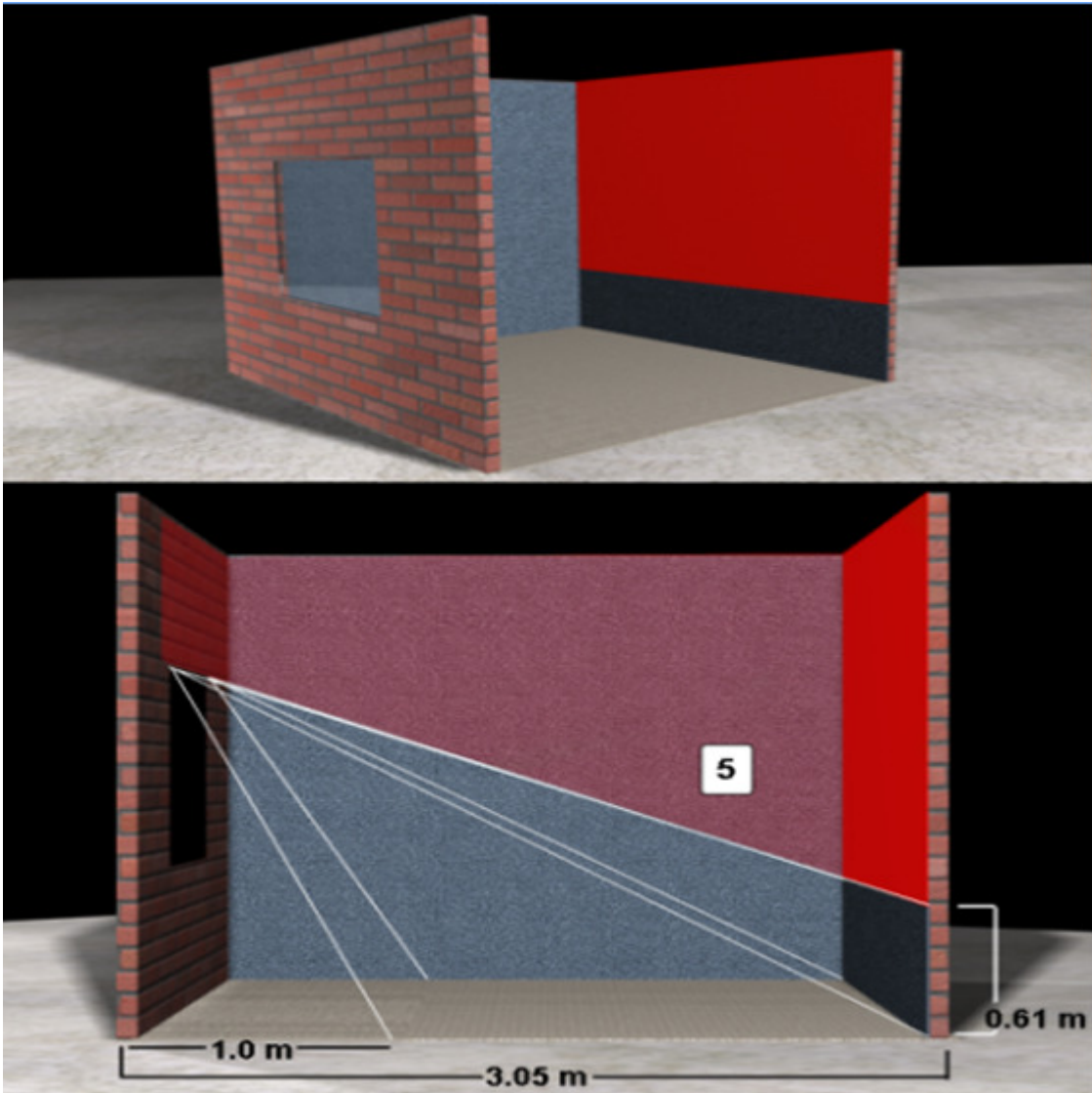
Layup

The blast load applied to this window has a peak pressure of 117 kPa that linearly decays to zero in 5.009 msec. This corresponds to an impulse of 293 kPa-msec. The airblast load is illustrated below.

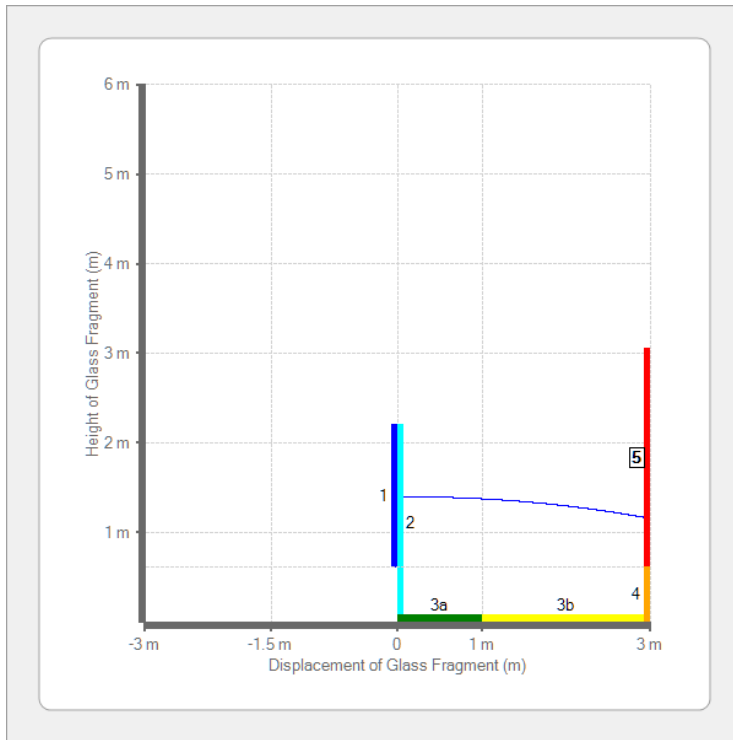


**Blast Load**

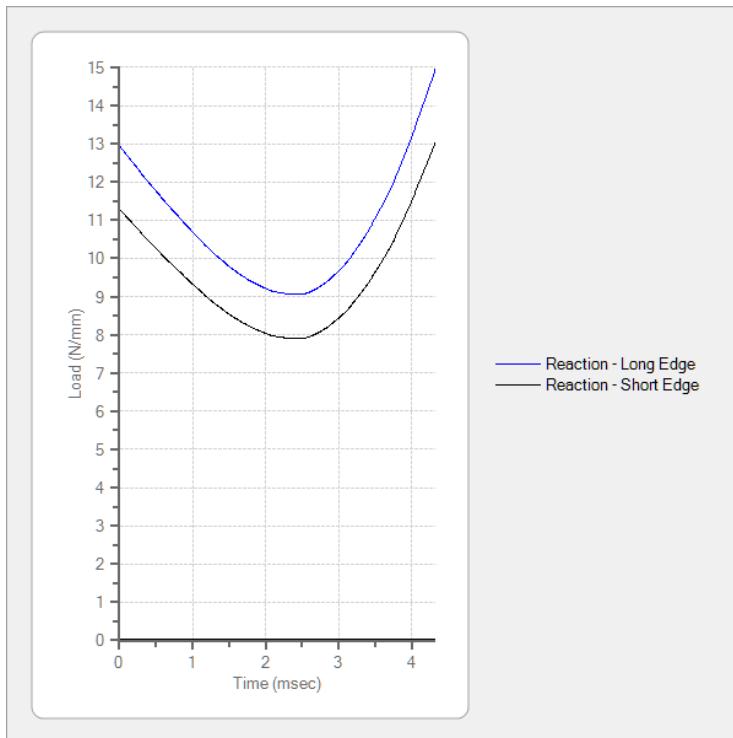
When subjected to this blast load **WINGARD LE** predicts that the window will respond as follows: GSA Hazard Condition 5. Relevant information is provided in the following graphics.



GSA Performance Condition



Fragment/Debris Flight Path



Dynamic Reactions