



PILKINGTON
NSG Group Flat Glass Business

Technical Information

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Strength of Pilkington Texture Glass

The uniform load capacity of textured or patterned glass has been given various values in the literature. Theoretically a simple analysis could take the strength of a flat glass of the same thickness as the thinnest part of the patterned glass but this approach is not valid because it does not take into account the stress concentration effect of sharp details in some patterns.

Pilkington Texture Glass patterns (except for Pilkington Texture Glass -- **Warwick™**) have been load tested and found to be at least 55% as strong as flat glass of the same nominal thickness.

For United States applications the uniform load capacity of flat glass is given in ASTM E 1300 standard for rectangular glass supported on all 4 edges and subjected to a uniform 3 second duration load. For example a 48" x 96" light of 1/4" annealed glass has an 8 in 1000 breakage probability under a 3 second duration load of 29.6 psf according to E 1300. Using the 55% rule, the same size 6mm Pilkington Texture Glass will support a 60-second duration uniform load of $0.55 \times 29.6 = 16.3$ psf for an 8 in 1000 breakage probability.

The Pilkington Texture Glass -- **Warwick™** has a textured surface with particular stress concentration details. The uniform load capacity of Pilkington Texture Glass -- **Warwick™** is taken as 35% of that of ASTM E 1300 glass of the same thickness.

Questions or comments should be directed to: Pilkington North America, Inc. Technical Services, (419) 247-4448.

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