EXTRALUM

Technical Bulletin.

Approximate weight of Architectural Flat Glass

Engineers, architects and installers need to know the weight of materials for design and construction considerations. The following table shows the approximate weights per square meter of flat glass for architectural use according to its thickness.

Thickness		Aproximate Weight kg/m²
Milímeters	Inches	
2.5	3⁄32	6.3
3	1⁄8	7.6
4	5⁄32	10.1
5	3⁄16	12.7
6	¼	15.2
8	5⁄16	20.2
10	3⁄8	25.3
12	½	30.4
19	¾	48.1

Table1: Approximate weight per square meter of glass, depending on thickness.

You can calculate the approximate weight of glass, at a given measure, using the following formula:

Aprox. weight (kg) = A x T x 2.531

As Where:

A = Area of the Glass, given in meters (m)

T = Glass thickness, given in millimeters (mm)

Example 1:

What is the approximate weight for a rectangular glass 2530mm high by 1830mm wide and 10mm thick?

Solution 1: Weight approx. 2.53 x 1.83 x 10 x 2,531117.18 kg

The same formula can be used to calculate the weights of laminated glass if the total actual nominal thickness is known, for which the thickness of the glasses must be added with the thickness of the polyvinyl sheets (PVB).

Reference	Thickness of PVB (mm)
1	0.38
2	0.76
3	1.14
4	1.52

Table 2: PVB thickness marketed by Extralum, S.A.

Example 2:

What is the approximate weight for a laminated rectangular glass 2530mm high by 1830 mm wide and 1010.3 thick?

Solution 2:

Actual nominal thickness 1010.3= 10mm + 10mm + 1.14mm = 21.14 mm

Weight approx. = 2.53 x 1.83 x 21.14 x 2.531 = 247.72 kg

For the calculation of the weight of double-glazed airtight glass (DVH) or insulated glass, the air chamber should be despised and the sum of the glass that makes up it should be taken as a total thickness.

Example 3:

What is the approximate weight for a DVH rectangular glass consisting of 2 glasses, 10mm and 8mm, respectively, 1530mm high by 830mm wide?

Solution 3:

Thickness = 10mm + 8mm = 18 mm

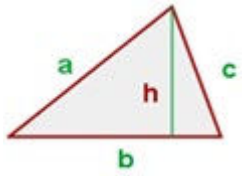
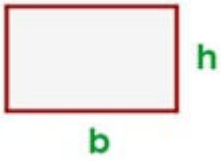
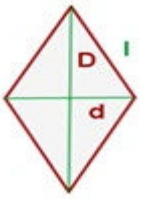
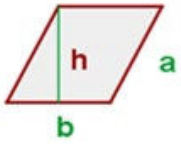
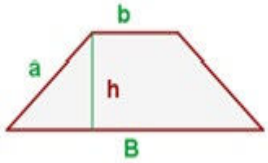
Weight approx.= 1.53 x 0.83 x 18 x 2.531 = 57.85 kg

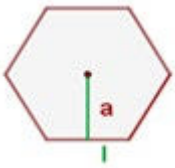
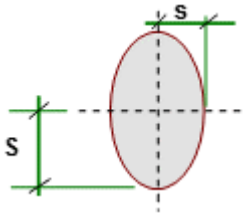
Recommendation.

In case of decimal rounding and to prevent decimal "contempt" from affecting design conditions by converting the result to a data below the actual one, it is recommended to do so with the nearest top immediate number.

Glass Shapes.

Below are the formulas for calculating the areas and weight of geometric shapes used in glass for floor-to-ceiling windows, floors, bleachers, railings, tables, etc.

Shape	Area	Weight Formula Approx.
	$A = \frac{b \cdot h}{2}$	**W = (b . h) /2 * T * 2.531**
	$A = l^2$	**W = l^2 * T * 2.531**
	$A = b \cdot h$	**W = b . h * T * 2.531**
	$A = \frac{D \cdot d}{2}$	**W = (D . d)/2 * T * 2.531**
	$A = b \cdot h$	**W = b . h * T * 2.531**
	$A = \frac{(B+b) \cdot h}{2}$	**W = (B + b) * h / 2 * T * 2.531**

	$A = \frac{\text{Perimeter} \cdot \text{Apothem}}{2}$	**W = (Per . Ap) / 2 * T * 2.531**
	$A = \pi \cdot r^2$	**W = (3.14 . r 2) * T * 2.531**
	$A = \pi * S * s$	**W = (3.14 * S * s) * T * 2.531**

Attention.

The Extralum work equipment that has the function of polishing in forms the glasses for diameters, rounded corners, special forms, etc., for security of the personnel and the mechanical equipment, has a capacity to support glasses of up to 60 kg. Any glass requested with a higher weight cannot be manufactured unless the respective changes are made to comply with the restriction.

If you have any questions, consult the Sales Department of Extralum, S.A.