Burnie Timber

Cell Cast Perspex Thickness Tolerance

19th November 2013

Our Perspex from the U.K. is made by the cell cast process; this is one of several ways of manufacturing an acrylic sheet. The other manufacturing methods are extrusion and continuous casting; the continuous cast process tends to be only used for sheets made in Japan and the USA.

The cell cast process generally gives the best physical properties to the sheet but it does have one significant drawback which can sometimes cause problems for customers if they aren't aware of it when buying the sheet. The issue is that the cell cast process produces quite a wide thickness variation; this isn't a fault, it's a natural part of the manufacturing method which is used.

If a customer intends to put the Perspex into a frame or channel then they need to be made aware of this in advance so that they can buy a wide enough channel to cover the variation or, if this isn't possible, they need to be consider buying extruded acrylic instead. For information, the thickness tolerance on extruded material is typically +/- 5%

The table below shows all of our Perspex thicknesses and the tolerances that are within the manufacturing specification. Any measurements outside of these tolerances need to be investigated before any complaint can be justified.

Nominal Perspex Thickness	Tolerance	Acceptable Minimum	Acceptable Maximum
3	+/- 0.7 mm	2.3 mm	3.7 mm
4	+/- 0.8 mm	3.2 mm	4.8 mm
5	+/- 0.9 mm	4.1 mm	5.9 mm
6	+/- 1.0 mm	5.0 mm	7.0 mm
8	+/- 1.2 mm	6.8 mm	9.2 mm
10	+/- 1.4 mm	8.6 mm	11.4 mm
12	+/- 1.6 mm	10.4 mm	13.6 mm
15	+/- 1.9 mm	13.1 mm	16.9 mm
18	+/- 2.2 mm	15.8 mm	20.2 mm
20	+/- 2.4 mm	17.6 mm	22.4 mm
25	+/- 2.9 mm	22.1 mm	27.9 mm
30	+/- 3.0 mm	27.0 mm	33.0 mm
35	+/- 4.0 mm	31.0 mm	39.0 mm
40	+/- 5.0 mm	35.0 mm	45.0 mm

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