

**BRETT MARTIN
LIMITED**

REPORT OF 1200J IMPACT TEST COMPLETED BY

Brett Martin Ltd.
24, Roughfort Road
Mallusk
Co. Antrim
N. Ireland.
BT36 4RB

MATERIAL TESTED

Profiled transparent polycarbonate sheet
Reference **Marlon CS P0017, 177 x 51**

PLACE OF TEST

Factory of Brett Martin Ltd.

TYPE OF TEST

Testing of the resistance to impact of fixed rooflight sheet when subject to an impact energy of 1200J

DATE OF TEST

5TH May 2005



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1. Type of product tested.

Profiled transparent sheet extruded in polycarbonate conforming to the product standard EN 1013-4 : 1999

2. Method of test

There is no standard test method: reference should be made to the document GIF(03/1997) "Lanterneau ponctuel en matière plastique avec costière – protocole d'essai de résistance à la traversée vertical d'un corps mou de grandes dimensions".

3. Principle of test

The test consists of determining the resistance of a fixed sheet of material to the force produced by a cylindrical bag of weight 50kg falling from a height of 2.4m. The impact energy is 1200J.

The result is positive if the bag is retained on the central fixed sheet for a period of one minute. Otherwise the result is negative.

4. Test assembly

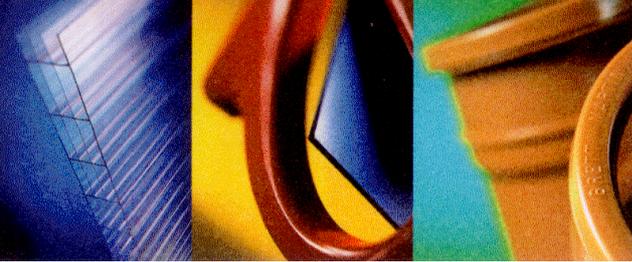
The test assembly consists of three identical sheets 1.7m long, set in a line parallel with the corrugations, and fixed to four supporting steel sections, with the following conditions

- End lap of sheets 200mm
- Distance between supports 1500mm
- Width of support sections 50mm
- A fixing is applied through each profile crown of the sheet
- Type of fixing: self drilling screw, 5.5mm diameter, 85mm long, with aluminium/EPDM washer of diameter 29mm.



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High density profiled foam fillers are placed between the profiled sheets and the supporting steel sections; the fixings pass centrally through these. Two rows of cross-linked butyl mastic sealant (Scapa 0311 W3x20) are applied between the sheets across the centre of each end lap and the fixing screws are positioned between these. The fixings are therefore 100mm from the end of each sheet.

Longitudinally the sheets are supported by two steel tubes, approximately 55mm diameter, 1.5mm wall thickness, fixed rigidly to the supporting sections. The sheets are fixed to these tubes at intervals of 300mm using self drilling screws 6.3mm diameter, 22mm long, with aluminium/EPDM washers of diameter 16mm. A row of cross-linked butyl mastic is applied between the sheet and the tubes; the screws are positioned in the centre of this row.

5. Sheet preparation.

Prior to assembling for impact test sheet lengths were measured, and the thickness was checked at ten points across the sheet width. Three sheets were impact tested.

6. Results of test

The sheet lengths measured 1700mm, -0 / +5mm
The sheet thickness measured 1mm +/- 0.03mm

The test results were **positive** for each of the three sheets. The bag was retained on the sheet for more than one minute after impact.



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