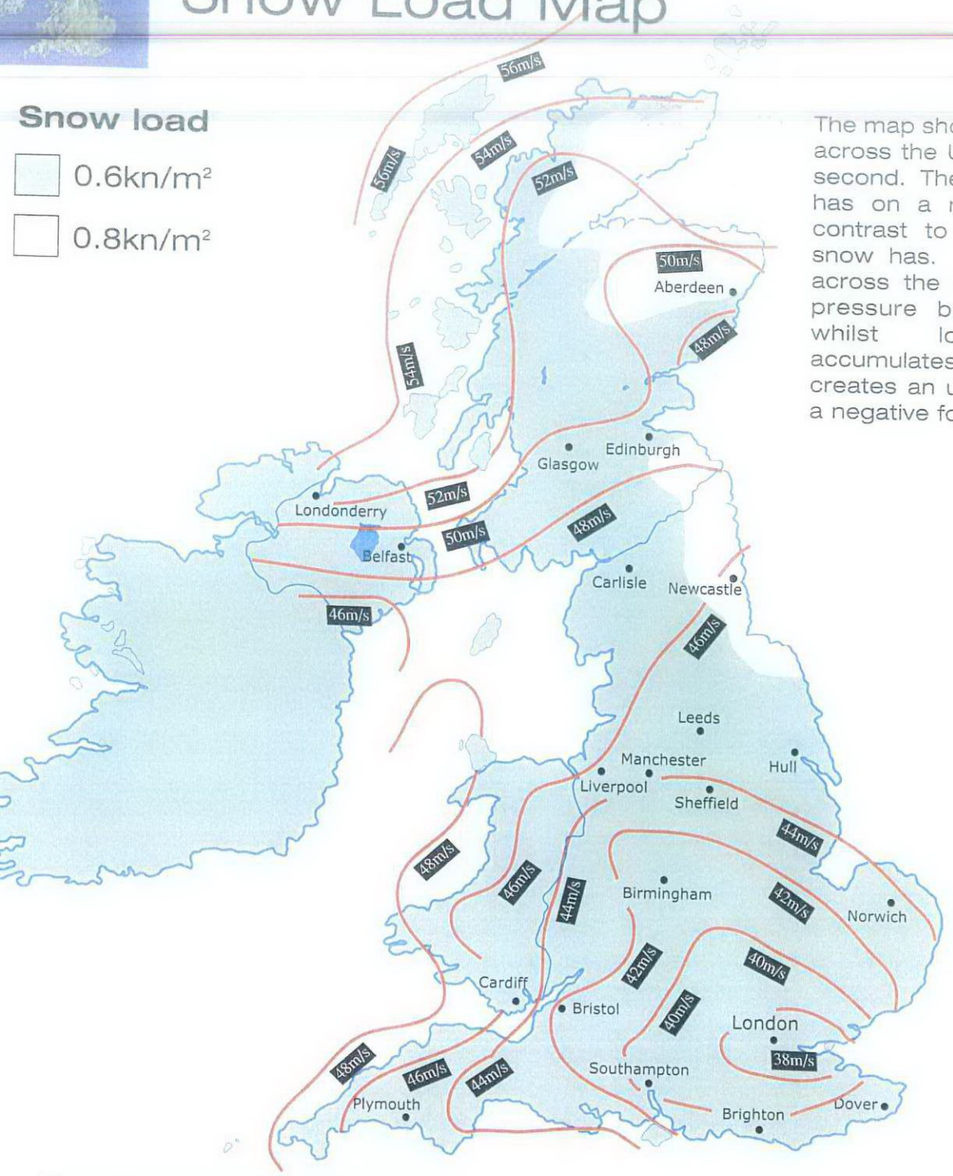
UK Wind Speed/ Snow Load Map

Snow load

- ☐ 0.6kn/m²
- ☐ 0.8kn/m²



The map shows wind speeds across the UK in metres per second. The effect that wind has on a roof is in direct contrast to the effect that snow has. As wind blows across the roof an area of pressure builds up inside whilst low pressure accumulates outside. This creates an uplifting effect or a negative force.

In some cases the wind load will become the dominant loadcase over snow load. Below are four wind exposure categories.

If your proposed site is 0.8kn/m² or the wind speed is above 50m/s then read the descriptions below. If Category One describes most accurately your site conditions or the site altitude is greater than 100m then it will be necessary to take further advice.

Category ONE Open country with no obstructions eg. coastal fringes

Category TWO Open country with scattered wind breaks

Category THREE Country with many wind breaks: Small towns, outskirts of large cities.

Category FOUR Surface with large and frequent obstructions eg. city centres.

Technical Data

Name:	Shield: 3mm system for windows and doors.
Grade Reference:	SYN10 White 01.
Material:	Acrylic modified high quality impact resistant, white unplasticised Polyvinyl Chloride extrusion to produce a rigid multi-chambered extrusion.
Physical Properties:	Comply with BS 7413: 2002 Table 1.
Colours:	White, Mahogany, Light Oak and Cherry.
Appearance:	Smooth, white, non-porous gloss surface.
Surface Finish:	Stabilised against UV light to prevent excessive colour shift. Meets requirements of BS 7413: 2002 when used in the UK.
Corner Welding:	Homogeneously welded. Retains 70% of the profiles tensile strength. Weld not to fracture below 20mpa: BS 7413 clause 5.8.
Window System:	Subject to manufacture in accordance with the Synseal Technical Manual recommendations, the casement window system will conform to the requirements of the standard (BS7412).
	In addition, a GGF standard window manufactured from SHIELD profiles, in accordance with the Synseal Technical manual, using low-e glass in the unit, achieves a U-value of 1.8 $wm^{-2}K^{-1}$ when hot-box tested by the British Board of Agrément.

Physical Properties of PVC-U Type A Material
Grade Ref: SYN10 White 01

Sound Installation:	30 dB minimum.
Thermal Conductivity at 20 deg C:	Typical test value 0.16 W/M deg C. PVC-U has a low thermal conductivity, and is virtually constant over a wide temperature range.
Fire Classification/ Performance:	PVC-U is a difficult material to burn which decreases the likelihood and development of fire "When exposed to a flame, PVC-U carbonises without burning or producing droplets, and it has been established that Synseal profiles can be used to achieve a Class 1 surface spread of flame rating to BS476: Part 7."
Heat Reversion:	To BS 7413 clause 5.5 (Test method: 1 Hr at 100 deg C). When tested in accordance with Annex F, the mean maximum reversion value for individual samples shall not be greater than 2% for profiles and 3% for glazing beads.
Heat Ageing:	To BS 7413 clause 5.7 (Test method: 30 mins. at 5 deg C). When tested in accordance with Appendix H, the profile shall show no bubbles, cracks or de-lamination.
Resistance of Impact at Low Temperature:	To BS 7413 clause 5.6 (Test method ikg from 1.5m at -10 deg C). When mainframe, casement and sash profiles are tested in accordance with appendix G, no sample shall exhibit cracking through the entire wall thickness of the profiles on either face.
Heat Resistance / Softening Point:	To BS 7413. When tested to BS EN ISO 306 (BS2782-1: Method 120B) Minimum vicat 5kg softening point: 75 deg C. Typical result 82 deg C. This is well above the requirements of the UK and German specifications.
Apparent Modules of Elasticity:	To BS 7413. Minimum requirement 2250 MPa value, when tested to BS EN ISO 178 (BS2782-3: Method 335A). Typical result 2350mpa.
Co Efficient of Thermal Expansion:	Allowances for changes in dimensions are required that occur when the temperature varies. The co-efficient of linear expansion for PVC-U is 6 x 10^{-5} per °C. It is about half that of many other thermoplastics.
Profile Properties:	Clause 5 of BS 7413:2002
Retention of Impact Strength After Artificial Ageing:	To BS 7413: 2002. Minimum 70% of original value specified when tested to Annex C.
Colour Fastness:	Table 1 of BS 7413. Specified 3/4 maximum on the grey scale. Typical result 4/5 when tested to Annex A.
Bulk Density of Powder Blend:	Typical test value 0.63 - 0.64. Minimum requirement: Non specified.

BS7413 KM 30983

FM 31451

BS7950/7413 KM 41324

Windows manufactured from profile supplied by Synseal Extrusions Ltd are kitemarked to BS7413 and BS7950/7413