

Material property table

All Eclipse profiles are manufactured from acrylic high impact modified, unplasticised Polyvinyl Chloride compound (PVC-U) especially formulated to suit either the Central European climate or the 'hot' and 'dry' climatic zones.

Material properties	Test method	Value
Density	DIN 53 479	1.42 kg/m ³
Vicat softening point	BS 2782 Method 120B, ISO 306	80°C
Apparent modulus of elasticity	BS 2782 Method 335 A, ISO 178	
	Rate of strain 5mm/min	2500 MPa
Tensile yield stress at 23°C	BS 2782 Method 320 C, ISO 527	>38 MPa
Tensile impact strength at 23°C	ISO 8526 Method A Specimen type 5	>600 kJ/m ²
Tensile impact strength at 0°C	ISO 8526 Method A Specimen type 5	>400 kJ/m ²
Impact strength	BS 2782 Method 359 Part 3	>14 kJ/m ²
Retention of impact strength after artificial ageing	BS 2782 Method 359 Part 3	original value
Colour fastness	BS 1006 1978 Part AO3, ISO 4892	4/5 Grey scale
Co-efficient of linear expansion (White/colour PVC-U profiles)		0.7mm/10°C/ metre length
Thermal conductivity at 23°C	DIN 52 612	0.15 W/m ² °K
Hardness, Shore table D	DIN 53 505, ISO 868	79
Water absorption after 24 hours	DIN 53 495	>0.1%
Creep strength after 1000 hours	DIN 53 444	15 MPa
Shear modulus G, 23°C	DIN 53 445	1000 MPa
Heat stability	BS 2782 Method 130	>240 min
Heat reversion	BS 7413 Appendix F	>2%
Heat ageing	BS 7413 Appendix H	pass
Low temperature impact resistance at -10°C	BS 7413 Appendix G	pass
Weld ability	BS 7413 Appendix K	>20 MPa
Fire resistance	BS 746 Part 7 1971	Class 1
Limiting Oxygen index	ASTM S2893	~ 45%
Flame spread index	ASTM E162	10 (constant)

Note:

- 1) Verification of BS standard specification: BS and BBA.
- 2) Verification of ASTM and DIN standard specification: PVC resin and/or 'one pack' suppliers.

Air Permeability, Water Tightness and Wind Resistance

Eclipse windows have been tested to BS 5368: Parts 1, 2 and 3 and meet the requirements of the classification for weathertightness BS 6375: Part 1: 1983, as follows:

Exposure categories for Eclipse

	Air Permeability	Water Tightness	Wind Resistance
Casement window	600Pa	300Pa	1200-2400Pa
Tilt & turn window	600Pa	300Pa	1200-2400Pa
Single residential door			
inward	300Pa	200Pa	2200Pa
outward	600Pa	300Pa	2200Pa
In-line patio door	300Pa	300Pa	1200Pa

For Vertical slider, French doors and Tilt & Slide Patio refer to WHS Halo.

Notes

- All values are quoted from BSI/BBA official ratings based on BS 6375 part 1.
 Water Tightness values typically achieved on test are:- Internally Beaded 600Pa
 Externally Beaded 1000Pa
 Wind Resistance values are dependent on size of frame and mullion/transom lengths.



BS7950 KM34442

BS7412 KM13589



PAS 024 PAS 023

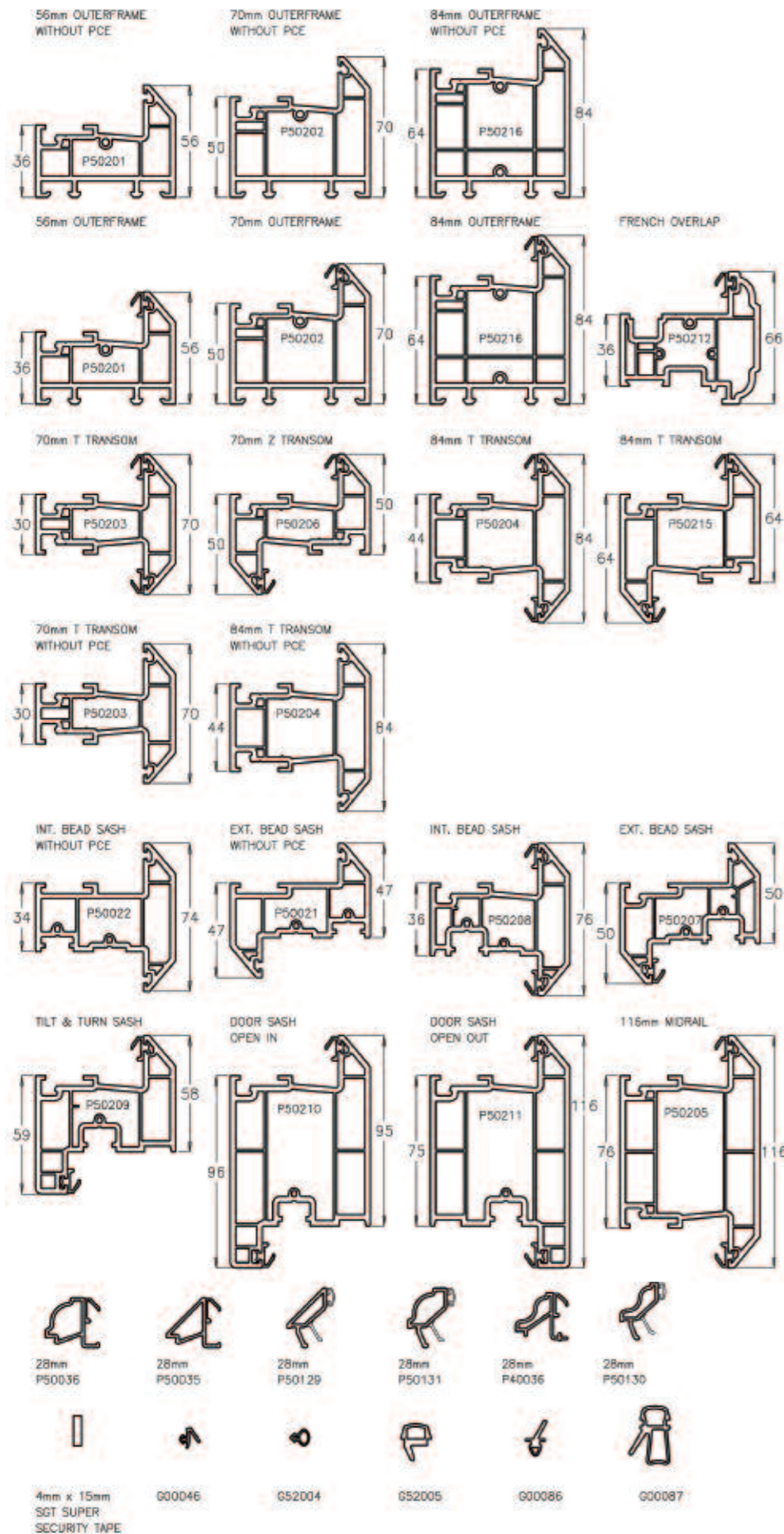
ECLIPSE Technical data sheet No 2 – PRODUCT OVERVIEW



Windows • Doors • Conservatories

ECLIPSE

Typical cross section



Technical and Material Specifications

Eclipse window and door products offer true aesthetic appeal with compact profile designs that mirror the slim sightlines of traditional wooden windows, with the addition of 3 or 4 fully enclosed chambers for product strength and thermal performance. One of these chambers may be used to fit metal reinforcement if required by the installation specification. All Eclipse profiles are manufactured from acrylic high impact modified, unplasticised Polyvinyl Chloride compound (PVCu) especially formulated to suit the Central European climate.

Eclipse profiles measure 70mm front to back*, equivalent to the standard depth of timber products found in most British homes. The vast majority of PVCu installations can therefore be made with a minimum amount of 'making good' after the removal of old timber frames, or the replacement of first generation PVCu or aluminium windows.

*with the exception of In-line Patio Door and Vertical Sliding Sash profiles.

In addition to the outer packaging that provides protection during transportation, Eclipse PVCu profiles are delivered to fabricators with a layer of protective film on 2 faces of the profile. This protective film is normally left in position until product installation, after which it should be completely removed.

Product Performance and Accreditations
Independent product accreditation and testing provide a tangible means of demonstrating product suitability and reliability in practice. Eclipse products have been independently assessed and achieved accreditation from both the British Standards Institute and the British Board of Agrément. Products are tested in terms of Weather Performance and Security.

Environmental Concerns

WHS Halo fully accepts its environmental responsibilities and takes a lead in addressing environmental issues within the PVCu window industry. WHS Halo was one of the first companies to achieve ISO 14001 Environmental Management System and has pioneered a unique partnership to recycle post consumer windows of all material types.

In line with the requirements of Building Regulations, all Eclipse products are designed for energy efficiency and comply

with Part L of the Building Regulations when installed by FENSA registered installers or approved by Building Control.

Profile Finishes

The diversity of installation settings creates a need for various window and doors finishes. Eclipse offers a wide choice of finishes across its product range:

- White
- Rosewood
- Light Oak
- Rosewood on the outside, White on the inside
- Light Oak on the outside, White on the inside

NB Vertical Sliding Sash Windows are available in white only

For complimentary white infill panels and finishing trims the recommended colour references are RAL 9010 or NCR0502-414R.

Beads and Glazing

Eclipse PVCu windows and doors are designed to accept 24mm or 28mm sealed units. The profiles can be fitted with either single leg or shuffle beads, which are available in a choice of chamfered, convex and concave designs. Consideration must be given to the safety requirement of BS6262: 1982 when specifying the type of glass to be used. Include Bead diagram on page 9 of Spec Tech Guide

Installation

Products should be surveyed and installed in accordance with current British Plastics Federation/Glass & Glazing Federation Codes of Practice, relating to the survey and installation of high impact modified PVCu windows. Consideration must be given to the safety requirement of BS6262: 1982 when specifying the type of glass to be used.

In line with the requirements of all Building Regulations, Eclipse products are designed for energy efficiency and comply with Part L when fitted by FENSA registered installers or approved by Building Control.

The wide variety of ancillary profiles available to the Installer provides almost limitless scope for product design and installation. Carefully engineered, the ancillary profiles suite with the main profiles and greatly enhance both structure and appearance of installations.

Cleaning and Maintenance

PVCu is not affected by airborne pollution, salt, ozone or acid rain. In order to maintain the superior appearance of Eclipse products, frames should be wiped down with a mild liquid detergent as required. Proprietary brands of glass cleaners may also be used. The use of abrasive cleaning agents is not recommended as it may result in damage to the surface finish of the PVCu and/or the glass.

On an annual basis lubricate all pivot points sparingly with light machine oil.

BS7412 – Licence No KM 13589
– Windows manufactured by WHS Halo

BS7412 – BS7950 – License no KM 34442
– 'Improved Security Windows' Windows manufactured by WHS Halo

BBA – Certificate for Windows 99/3579
– Windows manufactured by WHS Halo

BBA – Certificate for Doors 89/2297
– Doors manufactured by WHS Halo

BBA - Enhanced Resistance to Intrusion
– Windows manufactured by WHS Halo

PAS 23 – Licence no KM61041
Performance standard. Doors manufactured by WHS Halo

PAS 24 – Licence no KM61042 Enhanced security standard. Doors manufactured by WHS Halo

