

# The Stuart Young Consultancy

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**Report Prepared For:**

WHITEHILL SPINDLE TOOLS LTD  
2 BOLTON ROAD  
LUTON  
LU1 3HR

**Report Reference Number:**

SYC 13/04/07/U

**Product Description:**

High Performance Casement Window

**Date of Report:**

26 April 2013

**Principal Organisation Undertaking the Simulation:**

The Stuart Young Consultancy

**Simulator compiling the Report:**

Stuart Young  
(BFRC Certified Simulator No. 41)

### Product Description:

Outward opening double glazed flush sash casement window manufactured from Accoya and consisting of one side hung opening sash beside a direct glazed light, separated by a centrally placed mullion.

### THERMAL CONDUCTIVITY VALUES OF MATERIALS USED

Material	Thermal Conductivity	Source	Verified
	W/(m·K)		
CEN Glass	1.00	EN.10077:2 2012	yes
CEN Butyl Solid Hot Melt	0.24	EN.10077:2 2012	yes
CEN Superspacer	0.12	BFRC	yes
Accoya	0.12	Rosenheim	yes
CEN EPDM	0.25	EN.10077:2 2012	yes
CEN Foam Weatherstrip	0.05	EN.10077:2 2012	yes

### INSULATED GLASS UNITS

Description	Outer Pane	Inner Pane	Spacer Bar	Gas Fill	Centre Pane Value
					W/(m <sup>2</sup> ·K)
4/16/4	Clear Float	Planitherm Total Plus	Edgetech Super Spacer	90% Argon	1.195
4/16/4	Clear Float	Planitherm One	Edgetech Super Spacer	90% Argon	1.045

### WHOLE FRAME U-VALUES

Overall Frame height	Overall frame width	Planitherm Total Plus U-value	Planitherm One U-value
mm	mm	W/(m <sup>2</sup> ·K)	W/(m <sup>2</sup> ·K)
1480	1230	1.3	1.2

**Supplementary Notes:**

This simulation has been carried out in accordance with BS.EN.ISO.10077-2:2012 using computer simulation software provided by LBNL Daylighting Group (Therm version 5.2.14) and complies with the recommended method for obtaining whole frame U-values by numerical analysis given in BR 443:2006, Section 11.

A handwritten signature in blue ink, appearing to be 'Stuart Young', written over a light blue grid background.

Stuart Young Consultancy  
BFRC Certified Simulator No. 041  
26 April 2013