



St Gerard's School Ireland
Installer: energlaze

Acoustics

Sound insulation of Pilkington **Spacia™**

Introduction

Pilkington **Spacia**™ is a vacuum insulating glass comprising of an outer pane of low-emissivity (low-e) glass and an inner pane of clear float glass, with a vacuum rather than air or gas between the two panes of glass. Its thermal performance is equal to or better than that of most low-e double glazing but in the same thickness as single glass. Pilkington **Spacia**™ provides four or five times better thermal insulation than ordinary single glazing.

As sound transmission through a vacuum is low, Pilkington **Spacia**™ achieves higher levels of sound insulation than conventional glazing.

Comparison of sound insulation

A comparison of the sound insulation data of Pilkington **Spacia**™ compared with that of single and double glazing is provided in the table below.

Product	R _w (C; C _{tr}) dB	Improvement due to Pilkington Spacia ™ (dB)
6.2 mm Pilkington Spacia ™	35 (-1; -3)	N/A
Single glazing		
4 mm Float Glass	29 (-2; -3)	+6
6 mm Float Glass	31 (-2; -3)	+4
8 mm Float Glass	32 (-2; -3)	+3
10 mm Float Glass	33 (-2; -3)	+2
12 mm Float Glass	34 (0; -2)	+1
Double glazing		
4 mm Pilkington Optifloat ™ – 16 mm argon – 4 mm Pilkington Optifloat ™	31 (-2; -5)	+4
6 mm Pilkington Optifloat ™ – 16 mm argon – 4 mm Pilkington Optifloat ™	34 (-2; -5)	+1

Note. The values for single glazing are generally accepted values for generic products taken from EN 12758. They are conservative values that can be used in the absence of measured data. The values for Pilkington **Spacia**™ and insulating glass units have been measured in accordance with EN ISO 10140 and R_w (C; C_{tr}) determined in accordance with EN ISO 717-1.



Summary

As you can see from the above table, Pilkington **Spacia**[™] can offer an improvement in acoustic performance over conventional single and double glazing, with 6 and 4 dB improvements over typical domestic single and double glazing, respectively.

Additional information

For additional information, please contact our Technical Advisory Service.

Telephone 01744 692000.

Email pilkington@respond.uk.com

www.pilkington.co.uk

Explanation of terms

R_w is the weighted sound reduction, in decibels, which incorporates a correction for the ear's response.

C and C_r are the spectrum adjustments, which are the values added to R_w to take account of the characteristics of particular sound spectra.

Typical noise sources for spectrum adaptation term C include living activities (e.g. talking, music, radio, tv, etc.), motorway traffic at high speeds and factories emitting mainly medium and high frequency noise.

Typical noise sources for spectrum adaptation term C_r include living activities (e.g. talking, music, radio, tv, etc.), urban road traffic, jet aircraft (a long distance away), music with low frequency bass sounds and factories emitting mainly low and medium frequency noise.

This publication provides only a general description of the products. Further, more detailed, information may be obtained from your local supplier of Pilkington products. It is the responsibility of the user to ensure that the use of these products is appropriate for any particular application and that such use complies with all relevant legislation, standards, codes of practice and other requirements. To the fullest extent permitted by applicable laws, Nippon Sheet Glass Co. Ltd. and its subsidiary companies disclaim all liability for any error in or omission from this publication and for all consequences of relying on it. Pilkington, "Spacia" and "Optifloat" are trademarks owned by Nippon Sheet Glass Co. Ltd, or a subsidiary thereof.



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The CE marking label for each product, including declared values, can be found at www.pilkington.com/CE



Pilkington United Kingdom Limited

Registered office: European Technical Centre, Hall Lane, Lathom, Nr Ormskirk, Lancashire L40 5UF

Telephone 01744 692000 Fax 01744 692880

pilkington@respond.uk.com

www.pilkington.co.uk