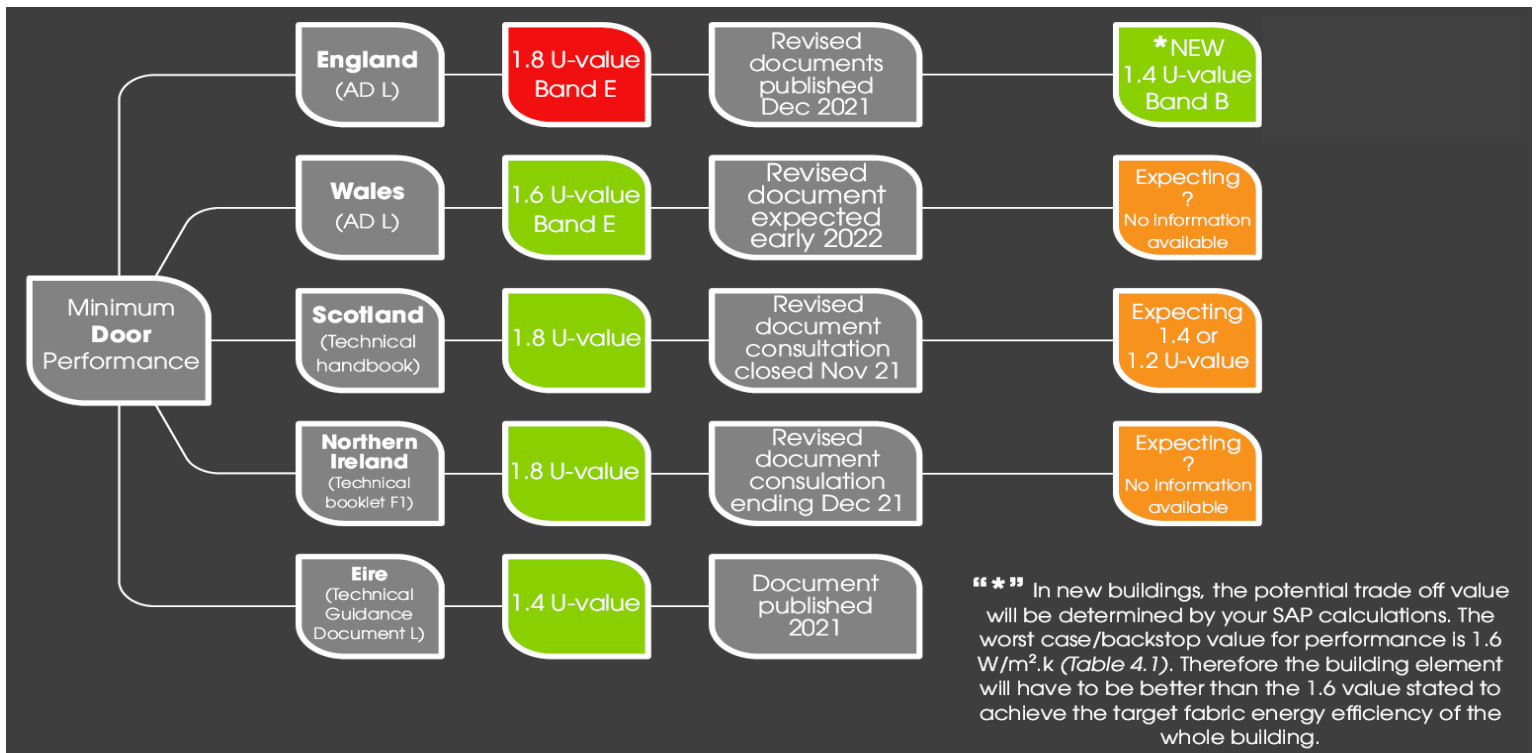


# Liniar Door U-values

Back in January '22 we advised customers of a change to the newly published Approved Document Part L. The government aim is to deliver zero carbon homes by 2025, these newly released regulations are interim measures and is highly likely that further reductions will be implemented in 2025.

The new minimum U-value for windows and doors in existing dwellings has been lowered to **1.4 W/(m<sup>2</sup>.k)** or **B** ratings. Liniar's PVCu window and door products, with the right glazing and spacer bar will easily be able to achieve the new 1.4 W/(m<sup>2</sup>.k) requirements.

The chart below is a summary and comparison between the existing and newly published 2021 edition of Approved Document L regulations for doors.



**Any installation in an existing dwelling on or after the 15th June 2022 must comply to the new 1.4 W/(m<sup>2</sup>.K) U-value or B Rated Energy Ratings Scheme.**

New build requirements will be determined via SAP calculation and specified in your tender documents

The following summary sheets are typical thermal performance values for Liniar products.

The values shown within this document are for indicative guidance use only. The summary sheets do not demonstrate proof of compliance via self declaration U-values or by an Energy Ratings Scheme.

To install an Energy Rated product the Fabricator or Authorised Retailer will need to register their windows or doord with an approved Energy Ratings Scheme. Please note the fabricator will also be required to undertake scheduled audits from an Independent Agency.

Please note - Resental door calculations are based on the GGF Type 3 style - fully glazed door with midrail.

Please contract your infill panel supplier for GFF Type's 1 & 2 (with infill panels), we will need to know the thickness, material & conductivity of each of the layers that make up the panel... including all test data reports associated with materials.

# Typical Indicative Residential Door U-values

## Door Sample 3 - Fully glazed with Midrail (Chamfered or Sculptured)

Calculations based on 0.14 λ conductivity spacer bars (ie Swiss Ultimate, Thermobar etc)

Summary Date : April '22

For Type's 1 & 2 guidance, please contact your infill panel supplier & request further info

Our datum ref:	Reinforcement type	Glazing flipper	Threshold type	Thermal performance U-value
D00450	Steel	No	LCW016	1.47 <b>1.5</b> W/(m <sup>2</sup> .k)
D00451	Steel	Yes	LCW016	1.46 <b>1.5</b> W/(m <sup>2</sup> .k)
D00452	Steel	No	LAN272T	1.51 <b>1.5</b> W/(m <sup>2</sup> .k)
D00453	Steel	Yes	LAN272T	1.50 <b>1.5</b> W/(m <sup>2</sup> .k)
D00454	Steel & PVC	No	LCW016	1.45 <b>1.5</b> W/(m <sup>2</sup> .k)
D00456	Steel & PVC	Yes	LCW016	1.44 <b>1.4</b> W/(m <sup>2</sup> .k)
D00455	Steel & PVC	No	LAN272T	1.48 <b>1.5</b> W/(m <sup>2</sup> .k)
D00457	Steel & PVC	Yes	LAN272T	1.47 <b>1.5</b> W/(m <sup>2</sup> .k)
D00350	Steel	No	LCW016	1.36 <b>1.4</b> W/(m <sup>2</sup> .k)
D00351	Steel	Yes	LCW016	1.35 <b>1.4</b> W/(m <sup>2</sup> .k)
D00354	Steel	No	LAN272T	1.39 <b>1.4</b> W/(m <sup>2</sup> .k)
D00355	Steel	Yes	LAN272T	1.38 <b>1.4</b> W/(m <sup>2</sup> .k)
D00358	Steel & PVC	No	LCW016	1.34 <b>1.3</b> W/(m <sup>2</sup> .k)
D00359	Steel & PVC	Yes	LCW016	1.33 <b>1.3</b> W/(m <sup>2</sup> .k)
D00362	Steel & PVC	No	LAN272T	1.37 <b>1.4</b> W/(m <sup>2</sup> .k)
D00353	Steel & PVC	Yes	LAN272T	1.36 <b>1.4</b> W/(m <sup>2</sup> .k)
D00352	Steel	No	LCW016	1.27 <b>1.3</b> W/(m <sup>2</sup> .k)
D00353	Steel	Yes	LCW016	1.26 <b>1.3</b> W/(m <sup>2</sup> .k)
D00360	Steel	No	LAN272T	1.31 <b>1.3</b> W/(m <sup>2</sup> .k)
D00361	Steel	Yes	LAN272T	1.29 <b>1.3</b> W/(m <sup>2</sup> .k)
D00369	Steel & PVC	No	LCW016	1.25 <b>1.3</b> W/(m <sup>2</sup> .k)
D00368	Steel & PVC	Yes	LCW016	1.24 <b>1.2</b> W/(m <sup>2</sup> .k)
D00372	Steel & PVC	No	LAN272T	1.29 <b>1.3</b> W/(m <sup>2</sup> .k)
D00373	Steel & PVC	Yes	LAN272T	1.27 <b>1.3</b> W/(m <sup>2</sup> .k)
D00367	Steel	No	LCW016	1.08 <b>1.1</b> W/(m <sup>2</sup> .k)
D00366	Steel	Yes	LCW016	1.07 <b>1.1</b> W/(m <sup>2</sup> .k)
D00370	Steel	No	LAN272T	1.10 <b>1.1</b> W/(m <sup>2</sup> .k)
D00371	Steel	Yes	LAN272T	1.09 <b>1.1</b> W/(m <sup>2</sup> .k)
D00374	Steel & PVC	No	LCW016	1.06 <b>1.1</b> W/(m <sup>2</sup> .k)
D00375	Steel & PVC	Yes	LCW016	1.05 <b>1.1</b> W/(m <sup>2</sup> .k)
D00378	Steel & PVC	No	LAN272T	1.08 <b>1.1</b> W/(m <sup>2</sup> .k)
D00379	Steel & PVC	Yes	LAN272T	1.07 <b>1.1</b> W/(m <sup>2</sup> .k)
D00352	Steel	No	LCW016	1.03 <b>1.0</b> W/(m <sup>2</sup> .k)
D00353	Steel	Yes	LCW016	1.02 <b>1.0</b> W/(m <sup>2</sup> .k)
D00360	Steel	No	LAN272T	1.05 <b>1.1</b> W/(m <sup>2</sup> .k)
D00361	Steel	Yes	LAN272T	1.04 <b>1.0</b> W/(m <sup>2</sup> .k)
D00369	Steel & PVC	No	LCW016	1.00 <b>1.0</b> W/(m <sup>2</sup> .k)
D00368	Steel & PVC	Yes	LCW016	1.00 <b>1.0</b> W/(m <sup>2</sup> .k)
D00372	Steel & PVC	No	LAN272T	1.03 <b>1.0</b> W/(m <sup>2</sup> .k)
D00373	Steel & PVC	Yes	LAN272T	1.02 <b>1.0</b> W/(m <sup>2</sup> .k)

4-20-4mm Double glazed units with  
**1.411** W/(m<sup>2</sup>.K) centre pane

ie... Argon filled units with  
K glass A ... etc

4-20-4mm Double glazed units with  
**1.219** W/(m<sup>2</sup>.K) centre pane

ie... Argon filled units with  
Total+,  
K glass S,  
Climaguard A+ ... etc

4-20-4mm Double glazed units with  
**1.070** W/(m<sup>2</sup>.K) centre pane

ie... Argon filled units with  
Planitherm One,  
Optitherm S1 Plus,  
Climaguard 1.0 ... etc

4-12-4-12-4mm Triple glazed units with  
**0.763** W/(m<sup>2</sup>.K) centre pane

ie... Argon filled units with  
Total+,  
K glass S,  
Climaguard A+ ... etc

4-12-4-12-4mm Triple glazed units with  
**0.674** W/(m<sup>2</sup>.K) centre pane

ie... Argon filled units with  
Planitherm One,  
Optitherm S1 Plus,  
Climaguard 1.0 ... etc

# Typical Indicative French Door U-values

(Chamfered or Sculptured)

Calculations based on 0.14  $\lambda$  conductivity spacer bars (ie Swiss Ultimate, Thermobar etc)

Summary Date : April '22

Our datum ref:	Reinforcement type	Glazing flipper	Threshold type	Thermal performance U-value
4-20-4mm Double glazed units with <b>1.411</b> W/(m <sup>2</sup> .K) centre pane  <i>ie... Argon filled units with K glass A ... etc</i>	D00458	Steel	No	LCW016 1.50 <b>1.5</b> W/(m <sup>2</sup> .k)
	D00459	Steel	Yes	LCW016 1.49 <b>1.5</b> W/(m <sup>2</sup> .k)
	D00460	Steel	No	LAN272T 1.55 <b>1.6</b> W/(m <sup>2</sup> .k)
	D00461	Steel	Yes	LAN272T 1.54 <b>1.5</b> W/(m <sup>2</sup> .k)
	D00462	Steel & PVC	No	LCW016 1.48 <b>1.5</b> W/(m <sup>2</sup> .k)
	D00463	Steel & PVC	Yes	LCW016 1.47 <b>1.5</b> W/(m <sup>2</sup> .k)
	D00464	Steel & PVC	No	LAN272T 1.53 <b>1.5</b> W/(m <sup>2</sup> .k)
	D00465	Steel & PVC	Yes	LAN272T 1.52 <b>1.5</b> W/(m <sup>2</sup> .k)
4-20-4mm Double glazed units with <b>1.219</b> W/(m <sup>2</sup> .K) centre pane  <i>ie... Argon filled units with Total+, K glass S, Climaguard A+ ... etc</i>	D00310	Steel	No	LCW016 1.38 <b>1.4</b> W/(m <sup>2</sup> .k)
	D00311	Steel	Yes	LCW016 1.37 <b>1.4</b> W/(m <sup>2</sup> .k)
	D00314	Steel	No	LAN272T 1.43 <b>1.4</b> W/(m <sup>2</sup> .k)
	D00315	Steel	Yes	LAN272T 1.42 <b>1.4</b> W/(m <sup>2</sup> .k)
	D00318	Steel & PVC	No	LCW016 1.34 <b>1.3</b> W/(m <sup>2</sup> .k)
	D00319	Steel & PVC	Yes	LCW016 1.34 <b>1.3</b> W/(m <sup>2</sup> .k)
	D00322	Steel & PVC	No	LAN272T 1.40 <b>1.4</b> W/(m <sup>2</sup> .k)
	D00323	Steel & PVC	Yes	LAN272T 1.40 <b>1.4</b> W/(m <sup>2</sup> .k)
4-20-4mm Double glazed units with <b>1.070</b> W/(m <sup>2</sup> .K) centre pane  <i>ie... Argon filled units with Planitherm One, Optitherm S1 Plus, Climaguard 1.0 ... etc</i>	D00312	Steel	No	LCW016 1.28 <b>1.3</b> W/(m <sup>2</sup> .k)
	D00313	Steel	Yes	LCW016 1.28 <b>1.3</b> W/(m <sup>2</sup> .k)
	D00316	Steel	No	LAN272T 1.33 <b>1.3</b> W/(m <sup>2</sup> .k)
	D00317	Steel	Yes	LAN272T 1.33 <b>1.3</b> W/(m <sup>2</sup> .k)
	D00320	Steel & PVC	No	LCW016 1.25 <b>1.3</b> W/(m <sup>2</sup> .k)
	D00321	Steel & PVC	Yes	LCW016 1.25 <b>1.3</b> W/(m <sup>2</sup> .k)
	D00324	Steel & PVC	No	LAN272T 1.31 <b>1.3</b> W/(m <sup>2</sup> .k)
	D00325	Steel & PVC	Yes	LAN272T 1.30 <b>1.3</b> W/(m <sup>2</sup> .k)
4-12-4-12-4mm Triple glazed units with <b>0.763</b> W/(m <sup>2</sup> .K) centre pane  <i>ie... Argon filled units with Total+, K glass S, Climaguard A+ ... etc</i>	D00326	Steel	No	LCW016 1.08 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00327	Steel	Yes	LCW016 1.08 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00330	Steel	No	LAN272T 1.13 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00331	Steel	Yes	LAN272T 1.12 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00334	Steel & PVC	No	LCW016 1.05 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00335	Steel & PVC	Yes	LCW016 1.05 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00338	Steel & PVC	No	LAN272T 1.10 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00339	Steel & PVC	Yes	LAN272T 1.10 <b>1.1</b> W/(m <sup>2</sup> .k)
4-12-4-12-4mm Triple glazed units with <b>0.674</b> W/(m <sup>2</sup> .K) centre pane  <i>ie... Argon filled units with Planitherm One, Optitherm S1 Plus, Climaguard 1.0 ... etc</i>	D00328	Steel	No	LCW016 1.03 <b>1.0</b> W/(m <sup>2</sup> .k)
	D00329	Steel	Yes	LCW016 1.02 <b>1.0</b> W/(m <sup>2</sup> .k)
	D00332	Steel	No	LAN272T 1.07 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00333	Steel	Yes	LAN272T 1.06 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00336	Steel & PVC	No	LCW016 1.00 <b>1.0</b> W/(m <sup>2</sup> .k)
	D00337	Steel & PVC	Yes	LCW016 0.99 <b>0.99</b> W/(m <sup>2</sup> .k)
	D00340	Steel & PVC	No	LAN272T 1.05 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00341	Steel & PVC	Yes	LAN272T 1.04 <b>1.0</b> W/(m <sup>2</sup> .k)

# Typical Indicative Modlok Bi-fold Door U-values

Calculations based on 0.14 λ conductivity spacer bars (ie Swiss Ultimate, Thermobar etc)

Summary Date : April '22

Our datum ref:	Reinforcement type	Glazing flipper	Threshold type	Thermal performance U-value
4-20-4mm Double glazed units with <b>1.411</b> W/(m <sup>2</sup> .K) centre pane  <i>ie... Argon filled units with K glass A ... etc</i>	D00466	As per fabrication manual	No	Frame 1.51 <b>1.5</b> W/(m <sup>2</sup> .k)
4-20-4mm Double glazed units with <b>1.219</b> W/(m <sup>2</sup> .K) centre pane  <i>ie... Argon filled units with Total+, K glass S, Climaguard A+ ... etc</i>	D00382	As per fabrication manual	No	Frame 1.39 <b>1.4</b> W/(m <sup>2</sup> .k)
	D00383	As per fabrication manual	Yes	Frame 1.38 <b>1.4</b> W/(m <sup>2</sup> .k)
4-20-4mm Double glazed units with <b>1.070</b> W/(m <sup>2</sup> .K) centre pane  <i>ie... Argon filled units with Planitherm One, Optitherm S1 Plus, Climaguard 1.0 ... etc</i>	D00384	As per fabrication manual	No	Frame 1.29 <b>1.3</b> W/(m <sup>2</sup> .k)
	D00385	As per fabrication manual	Yes	Frame 1.28 <b>1.3</b> W/(m <sup>2</sup> .k)
4-12-4-12-4mm Triple glazed units with <b>0.763</b> W/(m <sup>2</sup> .K) centre pane  <i>ie... Argon filled units with Total+, K glass S, Climaguard A+ ... etc</i>	D00386	As per fabrication manual	No	Frame 1.07 <b>1.1</b> W/(m <sup>2</sup> .k)
	D00387	As per fabrication manual	Yes	Frame 1.06 <b>1.1</b> W/(m <sup>2</sup> .k)
4-12-4-12-4mm Triple glazed units with <b>0.674</b> W/(m <sup>2</sup> .K) centre pane  <i>ie... Argon filled units with Planitherm One, Optitherm S1 Plus, Climaguard 1.0 ... etc</i>	D00388	As per fabrication manual	No	Frame 1.01 <b>1.0</b> W/(m <sup>2</sup> .k)
	D00389	As per fabrication manual	Yes	Frame 1.01 <b>1.0</b> W/(m <sup>2</sup> .k)

# Typical Indicative ModLok Patio Door U-values

Calculations based on 0.14 λ conductivity spacer bars (ie Swiss Ultimate, Thermobar etc)

Summary Date : April '22

Our datum ref:	Reinforcement type	Glazing flipper	Threshold type	Thermal performance U-value
D00342	As per fabrication manual	No	Frame	1.38 <b>1.4</b> W/(m <sup>2</sup> .k)
D00343	As per fabrication manual	Yes	Frame	1.37 <b>1.4</b> W/(m <sup>2</sup> .k)
D00344	As per fabrication manual	No	Frame	1.27 <b>1.3</b> W/(m <sup>2</sup> .k)
D00345	As per fabrication manual	Yes	Frame	1.27 <b>1.3</b> W/(m <sup>2</sup> .k)
D00346	As per fabrication manual	No	Frame	1.24 <b>1.2</b> W/(m <sup>2</sup> .k)
D00347	As per fabrication manual	Yes	Frame	1.24 <b>1.2</b> W/(m <sup>2</sup> .k)
D00348	As per fabrication manual	No	Frame	1.19 <b>1.2</b> W/(m <sup>2</sup> .k)
D00349	As per fabrication manual	Yes	Frame	1.18 <b>1.2</b> W/(m <sup>2</sup> .k)

4-20-4mm Double glazed units with  
**1.411** W/(m<sup>2</sup>.K) centre pane  
  
*ie... Argon filled units with K glass A ... etc*

4-20-4mm Double glazed units with  
**1.219** W/(m<sup>2</sup>.K) centre pane  
  
*ie... Argon filled units with Total+, K glass S, Climaguard A+ ... etc*

4-20-4mm Double glazed units with  
**1.070** W/(m<sup>2</sup>.K) centre pane  
  
*ie... Argon filled units with Planitherm One, Optitherm S1 Plus, Climaguard 1.0 ... etc*

4-8-4-8-4mm Triple glazed units with  
**1.021** W/(m<sup>2</sup>.K) centre pane  
  
*ie... Argon filled units with Total+, K glass S, Climaguard A+ ... etc*

4-8-4-8-4mm Triple glazed units with  
**0.941** W/(m<sup>2</sup>.K) centre pane  
  
*ie... Argon filled units with Planitherm One, Optitherm S1 Plus, Climaguard 1.0 ... etc*