NEW LEGISLATION DETAILS
explained to you by
PIONEER

We are sending you this to help in any questions you may have in regards to the new changes being made in the industry. By reading this we hope to clarify and help you to make an informed decision when speaking to us in the future.

APPROVED DOCUMENT L - Conservation of Fuel and Power 2010

From the 1st October 2010 a new legislation will come into effect regarding changes in Building Regulations to follow with EU Energy Performance of Buildings Directive (EPBD).

The abolition of wastage and reducing energy consumption are the key goals of the EU (European Union). This EU support for improving energy usage will be a main talking point for the United Nations' commitments on climate change made under the Kyoto protocol. A great chance of reducing energy consumption is possible. The EU has drafted this legislation to reduce the 40% amount of energy consumed in buildings presently.

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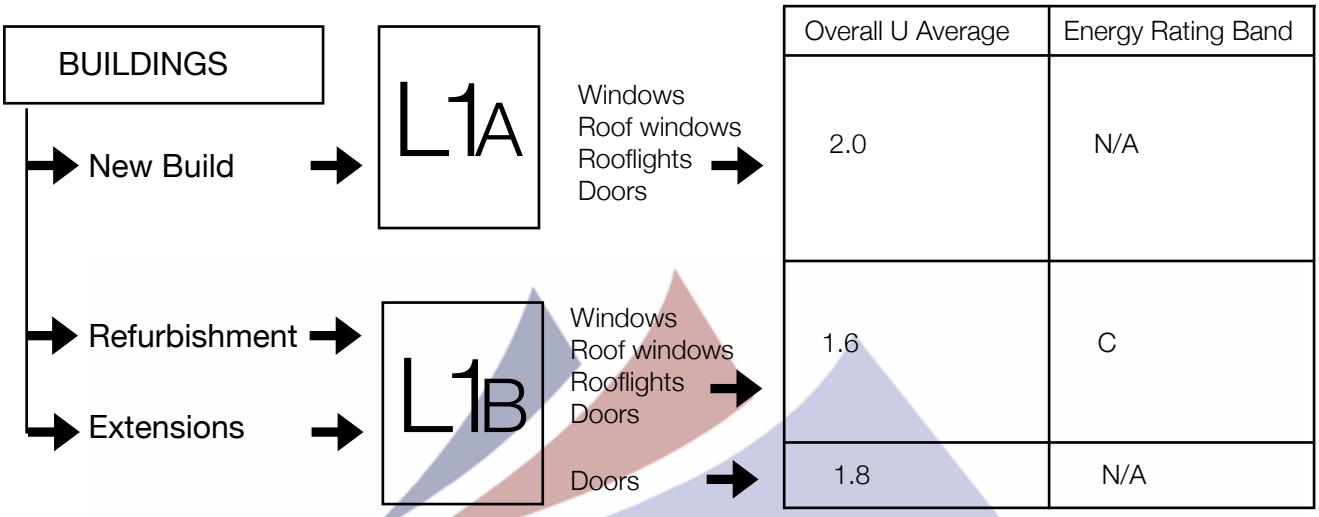
L1 DOMESTIC BUILDINGS

Domestic window U values have been tightened for new build, refurbishment and replacement windows. Greater restrictions placed on the centre pane U value compliance route.

WER (Window Energy Ratings) apply to all windows on existing buildings allowing the effect of solar gain to offset heat lost through a window. WER can be heavily improved by using low iron glass and thermally enhanced spacer bars. See diagram below:



KEY CHANGES 2010

L1A NEW HOUSES		
Windows	2.0	U value improved from 2.2
Doors	2.0	U value improved from 2.2

L1B REFURBISHMENT & EXTENSION TO EXISTING HOUSES		
Windows	1.6 or C	U value and WER improved from 1.8 or D
Doors	1.8	U value improved from 2.2

The WER is given by the following equation:

$$WER = 196.7 \times ((1-f) \times g) - 68.5 \times (U + (0.0165 \times AL)) \ (kWh/m^2/year)$$

f	**Frame Factor** - The percentage of the window covered by frame and gaskets
g*	**Solar Transmittance** - Normal total solar energy transmittance of glass as set by BS EN 410. Low iron glass with a high g will improve the WER dramatically.
U	**U value of whole window** - U is the whole window (including glazing & frame). U value calculated using the methods and guides in document BR 443. Thermal enhanced spacer bars will increase the WER value of the window.
AL	**Air Leakage** - Through the window in $m^3/h.m^2$ at 50 Pa pressure difference based on testing to BS 6375

* Glass

L1 COMMERCIAL BUILDINGS

An minimum of 25% increase in efficient energy in all new buildings compared to existing ones is required, the restrictive U values for fenestration are mainly unchanged. The values for windows and doors continue to be 2.2W/m²K, however the guidelines for high usage entrance doors have been restricted. This movement leaves the architect a selection of which building elements to improve in the SBEM calculations. Attention is paid on reducing the general building efficiency and a stronger emphasis on solar gains and overheating through passive solar control measures.

NON-BUILDINGS

		Overall U Average	Energy Rating Band*
New Build → L2A	Windows, Roof windows Rooflights, Doors	2.2	N/A
	High usage entrance doors	3.5	N/A
	Display windows	N/A	N/A
	Curtain Walling	2.2	N/A
Refurbishment → L2B	Windows, Roof windows Rooflights, Doors	1.8	C
	High usage entrance doors	3.5	N/A
Extensions → L2B	Display windows	N/A	N/A
	Curtain Walling	0.8 to 2.6**	N/A

* WER Energy Band only applicable to domestic buildings and buildings domestic in character.

** Curtain Walling U value should be no geater than:- $0.8 + 1.2 \frac{A\ Glazed}{A\ Total} + \frac{A\ Openable}{A\ Total} \times \frac{A\ Glazed}{A\ Total}$

KEY CHANGES 2010

L2A NEW HOUSES		
Windows	2.2	No adaptation
Doors	2.2	No adaptation
Curtain Wall	2.2	No adaptation
Display Windows	N/A	No adaptation
Entrance Doors	3.5	U value improved from 6.0

L2B REFURBISHMENT & EXTENSION TO EXISTING HOUSES		
Windows	1.8	Refurbishment identical to extensions
Doors	1.8	Refurbishment identical to extensions
Curtain Wall	0.8 to 2.6	U value relaxed dependent on number of openers
Display Windows	N/A	N/A
Entrance Doors	3.5	U value improved from 6.0