

PU Europe comments on the draft Impact Assessment for Ecodesign Requirements for Walk-In Cold Rooms (WICR)

PU Europe thanks the European Commission for the possibility to provide feed-back on this draft Impact Assessment. We would like to submit the following comments.

- Generally, we have supported the development of implementing measures, because the aim was to present a holistic approach towards reducing the energy consumption of WICR. The present proposal focuses on the envelope which significantly reduces the overall savings potential. On the other hand, the implementation costs seem very substantial in particular for SMEs.
- For the sake of progressing in this matter, PU Europe can generally support the proposed measures but still sees a number of issues that need to be resolved.
- We agree that thicker insulation represents a cost effective way to reduce the energy demand of WICR. However, we believe that U-values should be fixed on the basis of temperature differentials between the inside and the outside. A wall element separating two WICRs does not have to have the same insulation level as a panel separating a WICR from a kitchen. The conclusion of the stakeholders was not only that this is "worth further investigation", but that this should be the way forward. Spain has set requirements based on temperature differentials.
- In particular, the U-values proposed in the Impact Assessment for walls and ceilings appear excessive to many Southern (and even Northern) European producers. Whilst the values proposed by PU Europe (see below) could technically be achieved by most producers, worries persist in the Mediterranean countries that the market would simply not accept them. Producers do not sell directly to end-users, but to installers. The latter do not pay the energy bill and are therefore only interested in the lowest initial price. It is not clear how the concept of life cycle costs could be brought to the attention of end-users. Other countries, such as the UK, could accept the U-values recommended in the Impact Assessment.
We propose the following U-values for tables 7 and 8 subject to finding viable solutions for the Southern European countries.

Table 7

Source	Maximum U-value (W/m ² K)				Example corresponding minimum thickness (mm)
	Walls / ceiling	Floor	Door	Glazed	
Tier 1 (January 2015)	0.35	none	0.35	1.1****	
Tier 2 (July 2016)	0.30*	none	0.30***	1.1****	

Table 8

Source	Maximum U-value (W/m ² K)				Example corresponding minimum thickness (mm)
	Walls / ceiling	Floor	Door	Glazed	
Tier 1 (January 2015)	0.23*	0.5**	0.35***	1.1****	
Tier 2 (July 2016)	0.20*	0.5**	0.30***	1.1****	

* The cost of making very thick boards increases disproportionately. Most manufacturers cannot go beyond 150mm today and would have to invest in new technologies. Furthermore, a 100mm element has to cure for approximately 30 minutes, while a 150mm panel needs 1h to 1h15 curing time. Hence, when using the same presses, producers have less than half of the output when making 150mm panels but with the same labour costs. As pointed out above, the values proposed by PU Europe may be too ambitious for the current situation in the Southern European countries.

** Requirements for floor panels do not seem to exist in many countries today. The proposed requirements are considered too high even by Nordic manufacturers. Floor panel structures often consist of at least 20mm plywood plate and reinforcement pieces fixed through the bottom to the plywood panel. In certain cases, due to heavy performance needs, the plywood needs to have a thickness of 30mm and many reinforcement pieces need to be integrated. More research is recommended before moving to lower U-values.

*** The U-values for the doors must only refer to the door itself (door leaves + insulation core), and not to the door structure (door leaves + insulation core + door gaskets + door frame etc.). Otherwise, it would not be possible to achieve these performance levels. The proposed U-values are problematic. Doors cover only a small surface in the WICR and thicknesses above 100mm cause technical problems. 150mm thick doors are only used in the Nordic countries for temperatures below -20°C. For all other applications, thicknesses of 100mm or below are used.

**** These performance levels seem to be impossible to find in Southern Europe. To be checked with glazing manufacturers.

- As regards the soft door closers, certain door manufacturers stated that the proposal would lead to installation problems. The models on the market (for examples those available in the US) are designed for doors which are level with the panel. In Europe, however, most cold room doors are overlapping or partially-housed doors. Soft door closers do not seem to be available for this kind of doors at least in Southern Europe. To be checked with the door manufacturers.
- It is not acceptable to the manufacturers of prefabricated kits that they must meet more stringent requirements in terms of heat ingress through thermal bridges in the joints than manufacturers of custom-made WICR.
- The text contains confusing statements about the performance of the various blowing agents (see section "Other comments" below). It should make reference to the fourth generation of blowing agents, the so-called HFOs or unsaturated HFCs. They should become commercially available over the next five to ten years and offer an insulation performance similar to that of current HFCs but with a GWP of less than 10.
- Why are beer cellars excluded from implementing measures?
- The question of CE marking needs further consideration so as to avoid confusion in the market.
 - Does the CE mark stand for compliance with Ecodesign and ETAG 021?
 - Does the CE mark stand for compliance with Ecodesign?
 - * including thermal bridges
 - * without thermal bridges
 - Responsible person for affixing the CE mark when they are no pre-fabricated kits (but components are purchased individually) and basis on which the CE mark would be affixed;
- The question of standardisation is still not sufficiently clarified. ETAG 021 is voluntary, not adapted for all cases and would need revision. TC44 is moving forward without consultation with TC128 (sandwich panels).

Other comments:

- The wording needs correction in a number of instances including the following:
 - Page 3: "Stakeholders have indicated that typical practice in southern Europe is for insulation with substantially less U-value than is more typical in northern Europe and Scandinavia (although this is disputed by some)". **This should read** "higher U-values".
 - Page 5: "...For the smaller cold rooms, particularly the prefabricated rooms, the maximum U-value requirements could push some environmentally benign but less effective foaming agents (water/ formic acid) out of that segment of the market and encourage greater use of cheaper and more effective high GWP (HFC) materials...For the continuously formed insulation panels, low GWP hydrocarbon foaming agents account for 95% of the market and achieve better thermal performance than HFC panels" **This should read:** "...For the smaller cold rooms, particularly the prefabricated rooms, the maximum U-value requirements could push some environmentally benign but less effective foaming agents (water/ formic acid) out of that segment of the market and encourage greater use of more effective high GWP (HFC) materials...For the continuously formed insulation panels, low GWP hydrocarbon foaming agents account for 95% of the market but achieve a lower thermal performance than HFC panels."
 - Page 19: "... that U-values for insulation panels must be based upon the aged lambda (K-value) value, and not the value determined initially in the panel's life. This is in order to

comply with the requirements under EN14509 and CPD. The aged lambda value is more expensive to measure but reveals generally poorer performance which is more representative of the longer term usage of the materials." **This should read:** "... that U-values for insulation panels must be based upon the aged lambda (Λ_b) value, and not the value determined initially in the panel's life. This is in order to comply with the requirements under EN14509 and provide the market with accurate information on the long-term performance of the panel."

- Page 23: "Harmonised standards for sandwich panels and thermal bridges are proposed." The harmonised sandwich panel standard hEN14509 is approved and published. The Unique Acceptance Procedure for its first revision will start at the end of 2012.
- Page 37: "The hydrocarbon blowing agents tend to be more effective (better U-value) than HFC blown panels; which in turn are more effective than water/formic acid blown panels. A greater emphasis on U-value could help push the market towards these better performing and lower GWP blowing agents for continuously formed panels; but could push towards worse GWP (i.e. to HFC) for discontinuously produced panels." **This should read:** "The HFC blown panels tend to be more effective (better U-value) than hydrocarbon blowing agents; which in turn are more effective than water/formic acid blown panels."
- Page 39: "An additional cost will be incurred on manufacturers of insulated panels due to a shift from properties based on initial thermal conductivity to measurements based on an aged conductivity. These tests take longer but the move to aged properties is primarily driven by the construction products directive and regulation not by the eco-design regulation. Therefore the cost of these tests should not be considered a result of the proposed regulation."
The industry has always been obliged to communicate aged Lambda values. This section should therefore be removed.

Brussels, 18th September 2012