
ANNEX to Final Report

LOT 32 / Ecodesign of Window Products

Annex on Roof Lights (flat roof products)

→ not an official deliverable of the Lot 32 study ←

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INTRODUCTION

A certain stakeholder to the Lot 32 study on windows (study contract reference on title page) requested to place 'roof lights' (for flat roofs) in the scope of this study on windows as roof lights 'admit light to and may allow ventilation of' a space.

As argued in Task 1 of the main report of the Lot 32 study, roof lights should not be considered to be 'like products' as windows (the subject of the study brief and contract) as they are constructed differently, placed differently, used differently, perform differently, regulated differently, etc.

The EU association of roof light manufacturers Eurolux (<http://www.eurolux-sv.de>) was contacted in relation to the request and shares this opinion and stated they will not give any support to an analysis of 'roof lights' in a study intended to cover 'windows' as they stated that roof lights are a product group in its own right and should be treated independent from windows.

We have agreed with the stakeholder making the request and our client, the Commission Services, to present the data on roof lights that has been made available throughout the study in a separate Annex to the final study. It is noted that this Annex is not an official deliverable of the study as it falls outside the study brief.

The Annex follows the structure for assessing eligibility of a product group for possible ecodesign requirements in accordance with Article 15, item 1 of Ecodesign Directive 2009/125/EC

MARKET SIGNIFICANCE

Roof lights do not hold a specific category in Eurostat's Prodcom overview of production of traded goods. It is suspected they may be covered by the same category as plastic windows (22231450: Plastic doors, windows and their frames and thresholds for doors) but there is no key to extract further, more specific data from this. Apparently, the EU has no official record of trade statistics for roof lights.

The European trade association of rooflight manufacturers Eurolux was contacted for market data but did not want to cooperate.

No other sources for the market of roof lights in Europe could be identified. Hence the total number of rooflights sold annually and currently installed is not known. The stakeholder requesting the roof lights to be considered stated that current annual sales "has to be greater than 200 000" units, but did not provide any proof with that statement.

A market split up of the roof light market into types, characteristics or other useful performance parameters could not be established and the 'average', 'worst' or 'best' product could not be identified, nor could projections of sales into the past and future be prepared.

As roof lights are construction products, they are covered by the Construction Products Regulation 305/2011 and standards for establishing performance have been established: EN 1873:2013 for individual roof lights and EN 14963 for continuous roof lights. Note that these are different standards than used for (façade and roof) windows. According information presented under the Eurolux website some 25 manufacturers may be active in this sector.

ENVIRONMENTAL SIGNIFICANCE

The stakeholder requesting the Annex provided LCA data for roof lights of two types: with polycarbonate (PC) or acrylate (PMMA) pane(s).

Table 1: Bill-of-materials as supplied by the stakeholder

Material type	type '1' (kg)	type '2' (kg)
IGU ¹	21.8	21.8
PVC	16.6	16.6
PC	7.8	
PMMA		8.7
Other plastics	1.1	1.1
Metals	0.1	0.1
Total	47.5	48.4

¹ Mainly glass, but also other materials (as present in spacers, etc.)

The results of the LCA show that the use phase represents some 4/5 to 5/6 of the overall CO2 emissions, and roughly more than half of emissions in other categories (acidification, eutrophication, photochemical oxidants). It is easy to conclude that indeed the use-phase is the most important life cycle phase.

As regards possible savings in the use phase, the stakeholder making the request to include roof lights provided a table with calculations showing that savings of 12 to 186 kWh/m² can be achieved.

According to the source of this table the figures have been calculated in accordance with EN 1873:2013, based on a window reference size 1,2 m x 1,2 m. The values are calculated for the heating season and are based on the calculation methods of the “energy balance” ISO 18292 standard and reference buildings in Würzburg and Marseille.

Table 2: Results of LCA analysis submitted by the stakeholder

Yearly energy savings in the heating season [kWh/m ²] by replacing a simple double layer or “normal” rooflight with 2 layer or 3 layer insulation with a low energy performing rooflight (with Insulation Glazing Unit and single layered dome)		
	Southern Europe (saved kWh/m ²)	Northern Europe (saved kWh/m ²)
From simple double layer plastic dome (from e.g. the 80's) => Insulation glass unit with single layer dome (2014 product)	68	186
From double layer plastic dome (from e.g. 2010) => Insulation glass unit with single layer dome (2014 product)	12	60
From Triple layer dome (e.g. 2010) => Insulation glass unit with single layer dome (2014 product)	12	44

As no other information was made available as to what other boundary conditions applied, the data can only be presented 'as is', and its meaning or the interpretation of it is left to the reader.

Lack of transparency aside, the absence of market or stock data also means that the significance of impacts at EU level could not be established.

The above information has not been shared with Eurolux as they expressed a desire not to participate in this study and is therefore without endorsement of the most directly involved industry association. The LCA data presented is however available in the public domain (upon request) and can be scrutinised by interested parties.

IMPROVEMENT POTENTIAL

No evidence has been found that either support or contradict the statement that market forces (read: manufacturers, retailers and consumers, and other interested parties) are addressing the issue properly (the issue being the lack of improvement in energy efficiency – no available data).

No evidence has been found that either support or contradict the statement that a wide disparity in the environmental performance of products available on the market exists (no available data).

As the average product and costs for improvement could not be defined the potential for improvement, without entailing excessive costs or affecting performance, functionality, etc., could not be established.

CONCLUSION

The question whether 'roof lights' as product group are eligible for Ecodesign requirements, and/or energy labelling, can only be answered by setting up a dedicated study, which should seek to ensure the commitment of (at the very minimum) the main manufacturers, preferably represented by a common voice such as Eurolux, so that essential data is retrieved and can be analysed. The scope of a study into 'windows' did not provide the correct context for this.