

RESULTS OF EPD FOR WARMOTECH THERMAL INSULATION BOARDS FROM UAB ANDERUS

Declared unit: 1 kg of thermal insulation boards

Information about the product



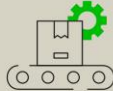

Warmotech boards are thermal insulation panels made of pressed rigid polyurethane (PU) foam material with a very high compressive strength. These thermal insulation boards are composed of milled PU-residues and bonding agents. Residues from cutting and milling, that can include layers (e.g., paper or aluminium foil) are reused in panel production. The product is made of at least 85% recycled rigid polyurethane foam.

Information about the company

In Europe, there is a growing number of companies entering the circular economy using a sustainable production model, recycling construction waste that would normally simply remain in landfills. One such company is the Lithuanian company UAB ANDERUS, which recycles rigid polyurethane foam waste, and produces the construction board WARMOTECH, a material that meets high standards and has exceptional properties.










EPD results ant interpretation

The table below list s the emissions of greenhouse gasses (kg CO₂e) or contribution to *global warming potential* of 1 kg of Warmotech board in product stage, that consist of modules: raw materials extraction (A1), raw materials transportation to production site (A2) and product manufacturing (A3).

Environmental impacts / Modules				Total product stage
	Raw materials (A1)	Transport (A2)	Manufacturing (A3)	Environmental impacts of the product
 Global Warming Potential	0,26	0,08	0,46	0,80 kg CO ₂ e

The most contributing module to greenhouse gasses emissions in product stage is manufacturing. The product is made of at least 85 % recycled rigid polyurethane foam. Because of those raw materials (A1) impact to environmental impact category global warming is lower than manufacturing process (A3). In total production of 1 kg of Warmotech boards emits 0,8 kg of CO₂ equivalents.



The table below lists 1 kg of Warmotech boards impact to the different environmental impact categories through the whole life cycle of the product.

Environmental impacts / Stages						Total life cycle	Recycling
		Product (A1-A3)	Construction process (A4-A5)	Use (B1-B7)	End-of-life (C1-C4)	Environmental impacts of the product	Positive benefits of recycling (D)
	Global Warming Potential	0,80	0,02	0,00	0,66	1,47 kg CO ₂ e	1,73
	Total use of renewable PER	6,30	0,00	0,00	0,01	6,32 MJ	3,3
	Total use of non-renewable PER	16,20	0,29	0,00	0,72	17,2 MJ	67,8
	Water consumption	0,17	0,00		0,02	0,19 m ³	0,43
	Non-hazardous waste production	0,50	0,03	0,00	0,01	0,54 kg	0,76

PER abbreviation stands for primary energy resources.

The life cycle of the product consists of 4 main stages: product, construction process, use and end-of-life. Each stage is subdivided in representative modules, like above mentioned product stage to A1-A3 modules¹. Additional life cycle module D shows the environmental benefits rising from materials and energy which are recycled or reused. As insulation boards after installation are not considered as separate product therefore the use stage in EPD calculations was not included.

1 kg of Warmotech board during the whole life cycle – from raw materials extraction till end-of-life waste processing, emits 1,47 kg of CO₂e, uses 0,19 m³ of water resources, generates 0,54 kg non hazardous waste, uses 6,32 MJ renewable energy and 17,2 MJ non-renewable energy. Considering the manufacturer's information, 100% of end-of-life product is assumed to be recycled as it is easy to collect and qualified for recycling. If product is recycled 100 %, positive benefit is higher than emissions during cradle to gate stages of the product.

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¹ Construction stage: A4 - product transportation to installation site; A5 – product installation
Use stage: B1 - use of the product; B2 – maintenance; B3 -repair; B4- replacement; B5 – refurbishment; B6 – operational energy use; B7 – operational water use
End-of-life: C1 – deconstruction/demolition; C2 – transportation to waste processing site; C3- waste processing; C4 – waste disposal.