TECHNOFORM

LCA-study

Life-cycle assessment study about the production of polyamide insulating strips

Insulation solutions for windows, doors, and facades

LCA-study

Life-cycle assessment study about the production of polyamide insulating strips

Summary
Technoform Bautec Kunststoffprodukte GmbH commissioned the PE Product Engineering GmbH to perform an LCA study about the production of insulating strips. The study is usable as a part of an LCA study about the total life time (production, use, recycling/disposal phase) of aluminum windows.

The figure on the bottom illustrates the system boundaries, the study is based on. The data used in the study are representative for Germany in the year 1996. Functional unit in this study is 1 kg of polyamide insulating strips. The results are dominated by the production of the raw material. The reduction of the laughing gas emissions (N2O) during the polyamide 66 synthesis over the last years is taken into account.

Production residues are recycled, therefore is the amount of waste in the plant small. All transportation processes are secondary.

Dettingen/Teck, Nov 17th 1998

Eco-profile polyamide insulation bridges

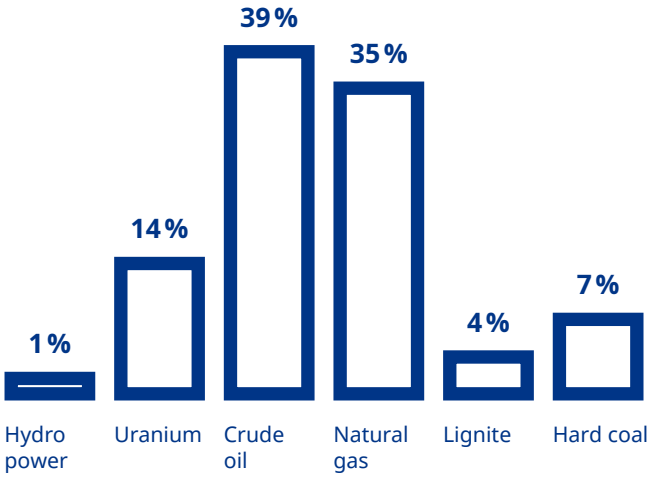
Evaluation of primary energy (PE)

primary energy n. renewable	MJ/kg	139,8
primary energy hydro power	MJ/kg	1,7

Impact assessment (kg/kg)

Global warming potential (GWP)	CO_2-Äq.	8,18
Ozon depletion potential (ODP)	R11-Äq.	$8,7*10^{-8}$
Acidification potential (AP)	SO_2-Äq.	0,0198
Eutrophication potential (NP)	PO_4-Äq.	0,0036
Photoch. ozone creation p. (POCP)	C_2H_4-Äq.	0,0076

Contribution of different non renewable energy careers



Evaluation of Waste

Overburden	kg/kg	11,95
Ore proceeding residual	kg/kg	1,15
Waste	kg/kg	0,153
Hazardous waste	kg/kg	0,0021
Radioactive waste	kg/kg	0,0072

LCA-study

Life-cycle assessment study about the production of polyamide insulating strips