



FACT SHEET

EPS has excellent eco-properties



Due to the low input of raw material (98 % air, 2 % polystyrene) and energy-efficient production process, EPS has an excellent eco-balance. An analysis of the current Environmental Product Declarations (EPD) with regard to the three values “Input of Non-Renewable Primary Energy (PED n.r.)”, “Global Warming Potential (GWP100)” and “Acidification Potential (AP)”, summarised in the Δ OI3-Index, clearly illustrates that EPS is quite on a level playing field with the “ecological alternatives” mineral foam and wood fibre.

Insulation for ETICS	PED n.r. MJ *)	GWP100 kg CO ₂ - Äquiv. *)	AP kg SO ₂ - Äquiv. *)	Δ OI3	EPD-No.
EPS grey	43,19	1,51	0,0038	2,19	EPD-EUM-20160273-IBG1-EN
EPS white	48,51	1,69	0,0043	2,47	EPD-EUM-20160269-IBG1-EN
Wood fibre	98,45	-10,08	0,0116	3,15	PAV-2013254-CBG2-EN
Hemp fibre	56,80	-2,60	0,0139	3,32	baubook-No. 9224 aa
Mineral foam	60,75	4,55	0,0084	3,90	EPD-XEL-20140218-CAD1-DE
Mineral wool (MW)	75,88	5,53	0,0412	8,94	EPD-DRW-20120113-IBC2-EN

*) per functional unit (= 1 m² area of equivalent insulation performance)

Source: Institut Bauen und Umwelt e.V. (IBU) and baubook

- The Δ OI3 Index uses a scale of 0 to 100, with the lower values being better than the higher ones.
- Attention: Mass-based eco-values (i.e. per kg) cannot be compared with one another, because they do not take into account the amount of air in an insulation material. While only 15 to 18 kg of polystyrene is needed to manufacture one cubic metre of façade EPS, the amount of material required for other types of façade insulation is up to 10 times higher. The bulk density of wood fibre baseboard for example is approximately 190 kg/m³. But even volumic eco-values (i.e. per m³) are not comparable because thermal conductivity also plays a role. For this reason, insulation materials must be compared with one another in functional units and bulk density and thermal conductivity must also be taken into account.