

By choosing Omnia for your panel work in bodybuilding you can. The very low weight of the panel is the key to this.

We compared the Omnia panel to other common products (Aluminium cored sandwich, a sandwich panel of steel sheets with PU foam core, GFRP sandwich polycarbonate core and plywood) for building box bodies to show you the environmental potential of our panel.

In this approach we will show how much energy it takes to create the side panels and front bulkhead for a box van (approx. 30 m² in total).

To do this we need to know how much energy it takes to make the raw materials first.

Material	Energy* [MJ/kg]
Steel	50
Aluminium	110
Polypropylene	100
Glass fibre	60
PU foam	100

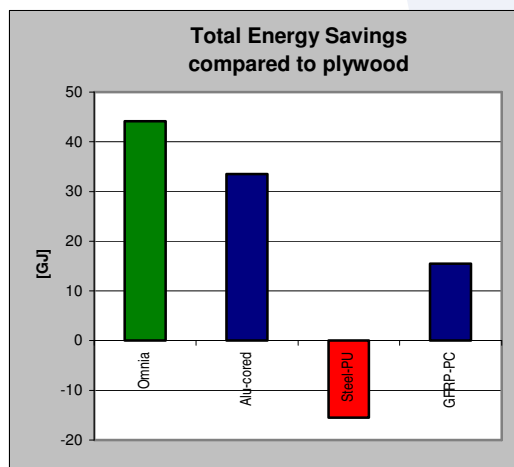
*According to our in-house information

To create the panels takes energy as well, but not very much compared to the production of the raw materials. For most plastics the energy required is similar and for polyester we assume the energy is the same as above, although it might be considerably higher. The Omnia panel contains about 1.2kg of glass fibre and 3.3

kg of PP. Although the paint is not taken into account it is worth mentioning that the Omnia panel is painted with a water-based paint system, being only half as demanding on the environment as solvent based ones.

For panels the energy adds up to

Panel	Weight [kg/m ²]	Energy/m ² [MJ/m ²]	Total energy [GJ]
Omnia	4.5	405	12
Alu-cored	5.3	583	17
Steel-PU	12	650	19
GFRP-PC	7.3	700	21



Due to a potentially good eco-profile of plywood it is assumed no energy is taken from nature to create plywood.

Especially for transport applications this is only part of the story, since reduced weight will actually save fuel during the service life. For cars and similar size vehicles (<3.5 tonnes) the reduction in fuel consumption is about 0.3 L/100km per 100 kg. For a service life of 200,000 km this results in the savings as indicated in the table.

Panel	Weight Savings [kg/m ²]	Production Energy [GJ]	Fuel Savings [L]	Fuel Savings Energy [GJ]	Total Energy Savings [GJ]
Omnia	8	12	1440	56	44
Alu-cored	7.2	17	1296	51	34
Steel-PU	0.5	19	90	4	-15
GFRP-PC	5.2	21	936	37	16
Plywood	0	-	-	-	-