kg Polycarbonate

Polycarbonate represents a family of thermoplastic polymers. Polycarbonate is a strong material and the grade used for construction is most often transparent. Polycarbonate has high mechanical strength and can withstand temperature fluctuations without cracking.

Polycarbonate is made by mixing bisphenol A and phosgene through multiple chemical reactions. The resulting polycarbonate can be extruded or moulded, like other thermoplastics.

Polycarbonate is mostly used in construction to replace glass in glazing, for skylights, flat or curved glazing and for sound walls.

Category *Plastics*

Type *Other polymers*

Functional unit *kg*

Specific heat *1 J/(kg·K)*

Density *1 200 kg/m³*

Common uses
Skylights, flat glazing, curved glazing, sound walls

Process name
Polycarbonate, at plant/RER U/ AusSD U

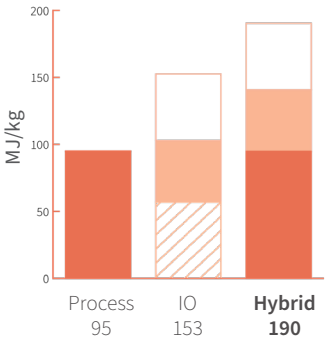
Input-output sector
Polymer Product Manufacturing

Further information
doi.org/10.26188/5da556966a461

Material variations	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions ($kgCO_2e$/unit)
Polycarbonate	*kg*	*190*	*265*	*14.0*
Polycarbonate roofing sheet - 1 mm	m^2	228	318	16.7
Polycarbonate roofing sheet - 2 mm	m^2	457	635	33.5
Polycarbonate roofing sheet - 3 mm	m^2	685	953	50.2
Polycarbonate roofing sheet - 6 mm	m^2	1 371	1 905	100

TOP THREE INPUTS

- 17.9% Basic Chemical Manufacturing
- 2.2% Polymer Product Manufacturing
- 1.9% Road Transport

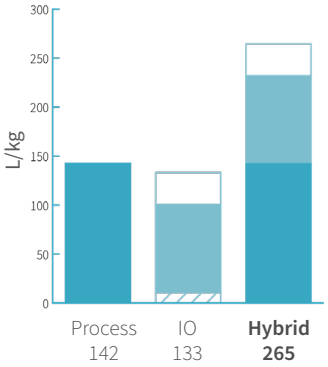


ENERGY

190 MJ/kg

TOP THREE INPUTS

- 13.9% Other Agriculture
- 5.4% Basic Chemical Manufacturing
- 2.1% Water Supply, Sewerage and Drainage Services

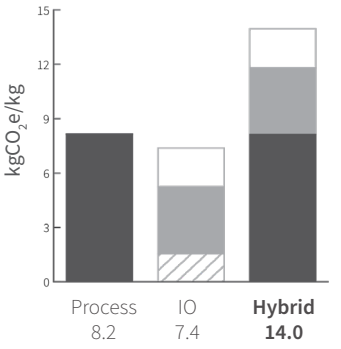


WATER

265 L/kg

TOP THREE INPUTS

- 16.2% Basic Chemical Manufacturing
- 1.9% Polymer Product Manufacturing
- 0.9% Road Transport



GREENHOUSE GAS EMISSIONS

14.0 $kgCO_2e$/kg