kg Ethylene tetrafluoroethylene (ETFE)

Ethylene tetrafluoroethylene (ETFE) is a fluorine-based plastic with high corrosion resistance, self-cleaning properties, ultraviolet resistance and resistant to a broad range of temperatures.

ETFE is produced by polymerising tetrafluoroethylene using water. ETFE is then extruded to the required thickness and welded into large sheets.

Due to its high resistance to the outdoor environment, ETFE is used in tensile architecture as a membrane and can also be used in inflated cushions.

Category *Plastics*

Type *Other polymers*

Functional unit *kg*

Specific heat *1 950 J/(kg·K)*

Density *1 700 kg/m³*

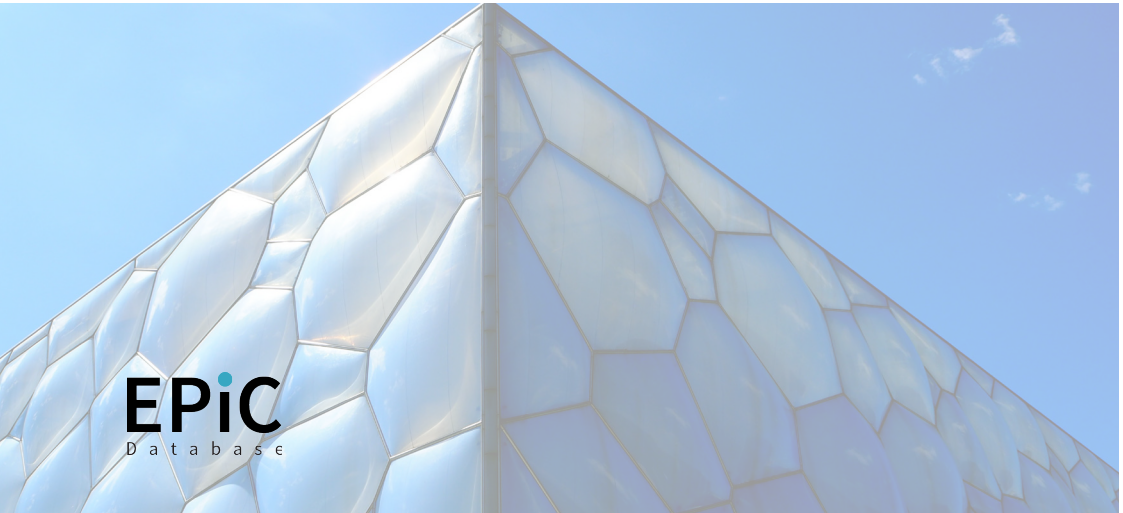
Common uses
Tensile architecture, inflatable cushions

Process name
Ethylene Tetrafluoroethylene (ETFE), film

Input-output sector
Polymer Product Manufacturing

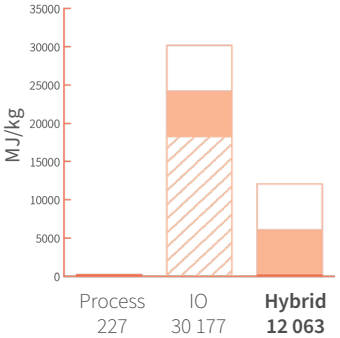
Further information
doi.org/10.26188/5da554446a581

Material variations	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions ($kgCO_2e$/unit)
Ethylene tetrafluoroethylene (ETFE)	*kg*	*12 063*	*22 606*	*798*
ETFE film - 25.4 µm (0.001")	m^2	306	574	20.3
ETFE film - 50.8 µm (0.002")	m^2	613	1 148	40.5
ETFE film - 127 µm (0.005")	m^2	1 532	2 871	101



TOP THREE INPUTS

- 11.6% Petroleum and Coal Product Manufacturing
- 7.1% Road Transport
- 3.9% Wholesale Trade

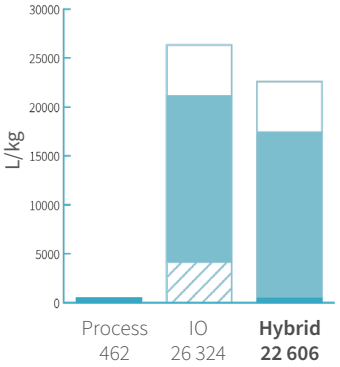


ENERGY

12 063 MJ/kg

TOP THREE INPUTS

- 32.2% Other Agriculture
- 3.0% Wholesale Trade
- 2.0% Textile Product Manufacturing

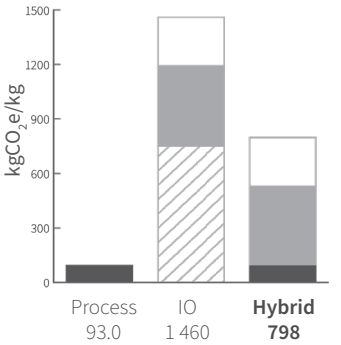


WATER

22 606 L/kg

TOP THREE INPUTS

- 6.1% Petroleum and Coal Product Manufacturing
- 3.9% Wholesale Trade
- 3.5% Road Transport



GREENHOUSE GAS EMISSIONS

798 $kgCO_2e$/kg