

**kg** Low-density polyethylene (LDPE) film

Polyethylene (PE) is the most common plastic and is a thermoplastic polymer. It has low strength and rigidity but high impact strength and ductility and low friction. It is highly waterproof.

PE is produced by polymerising ethylene monomers using different catalysts (typically metal chlorides or metal oxides). Different densities can be obtained with different properties. Multiple additives are also used to obtain different grades and properties of PE. PE is thermoformed into moulds or extruded.

Low-density polyethylene (LDPE) is cheaper than HDPE. LDPE films are usually used as vapour barriers, geomembranes and as general purpose membranes on site.

**Category**

Plastics

**Type**

Low Density Polyethylene

**Functional unit**

kg

**Specific heat**

1 555 J/(kg·K)

**Density**

910 kg/m<sup>3</sup>

**Common uses**

Vapour barrier, geomembrane, general purpose membrane

**Process name**

LDPE, extruded film (custom)

**Input-output sector**

Polymer Product Manufacturing

**Further information**

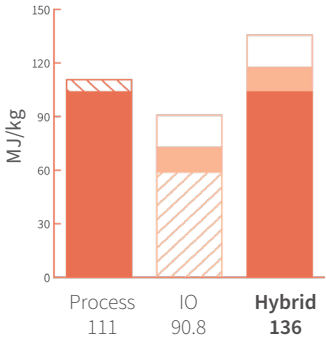
[doi.org/10.26188/5da55582e7c62](https://doi.org/10.26188/5da55582e7c62)

**Material variations**

	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions (kgCO <sub>2</sub> e/unit)
Low-density polyethylene (LDPE) film	kg	136	122	6.4
LDPE film - 100 µm	m <sup>2</sup>	12.3	11.1	0.6
LDPE film - 200 µm	m <sup>2</sup>	24.7	22.2	1.2

**TOP THREE INPUTS**

- 70.7% low density polyethylene, at plant/AU U
- 5.8% Extrusion, plastic film/RER U/AusSD U
- 1.9% Road Transport

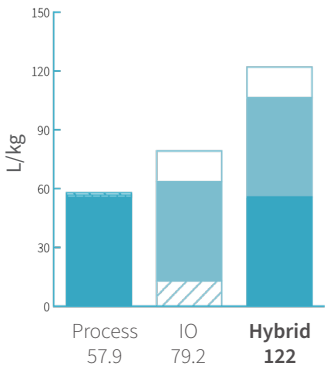


**ENERGY**



**TOP THREE INPUTS**

- 36.9% Extrusion, plastic film/RER U/AusSD U
- 17.9% Other Agriculture
- 8.8% Low density polyethylene, at plant/AU U

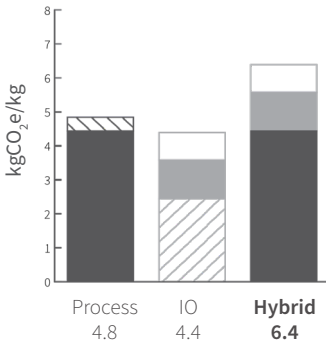


**WATER**



**TOP THREE INPUTS**

- 58.1% Low density polyethylene, at plant/AU U
- 11.4% Extrusion, plastic film/RER U/AusSD U
- 1.5% Wholesale Trade



**GREENHOUSE GAS EMISSIONS**

