

Ecolene

Product information

Version 1.0
January 2019

Ecolene[®] F40T

Ecolene[®] is a range of biodegradable and compostable thermoplastic materials, based on renewable resources. Ecolene[®] is a great alternative for conventional plastics such as LDPE, with lower environmental impact.

Ecolene[®] resins are suitable for use in flexible film applications. Processing method is ideally blown film or cast film extrusion. Typical applications are garbage bags, organic waste bags, compost bags, flexible packaging, ...

100%
biodegradable
compostable

Properties:

- Based on renewable resources
- Biodegradable according to EN13432
 - *certified "OK compost INDUSTRIAL"*
- Excellent processability on conventional LDPE blown film lines
- Ready to use compound
- No pre-drying required

General applications:

- Single use bags (bio-waste bags, bin liners)
- Fruit & vegetable bags
- Carrier bags
- Organic waste collection bags
- Agricultural films

Films made of Ecolene® F40T resin:

- Good mechanical properties
- Good bag manufacturing process
- White translucent colour
- Good sealing properties
- Printable (no pre-treatment required)
- Recyclable

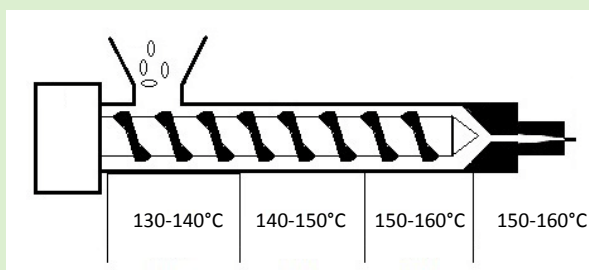
Processing information:

- General:
Ecolene® F40T resin is developed for blown film extrusion.
- Pre-drying:
Product can be used directly. No pre-drying required. Although Ecolene® resin can contain 0.6 - 0.7% moisture, pre-drying will negatively affect material performance and appearance.
- Purging:
Before running Ecolene® resin, clean and purge the extruder with a low-melting polymer (around 120°C). Make sure all polymer with melting point >120°C has been purged out of the extruder to avoid unmelts.

Physical properties	Value	Unit	Test Method
Density	1.28 – 1.31	g/cm ³	ISO 1183
MFR (160°C, 2.16kg)	0.55	g/10min	ISO 1133
Melting point	120	°C	DSC
Appearance	White to light yellowish granulates		
Moisture content	<0,7%		

Mechanical properties	Value (MD/TD)	Unit	Test Method
Tensile strength	13.4 / 8.3	MPa	ISO 527-3
Strain at Tensile strength	368 / 371	%	ISO 527-3
Stress at break	10.8 / 7.3	MPa	ISO 527-3
Strain at break	379 / 377	%	ISO 527-3
Tear resistance (Elmendorf)	TBD	mN	ASTM D 1922

Processing temperatures



Biodegradability – Compostability:

- Ecolene® F40T is fully biodegradable and compostable according to EN13432 and is certified “OK compost Industrial” by TÜV Austria (up to a maximum thickness of 71µm).
- In a pilot-scale aerobic composting test according to ISO 16929, Ecolene® F40T film of 71µm thickness was completely disintegrated after 6 weeks.
- In an industrial composting facility, under controlled temperature of 60°C, Ecolene® F40T film of 71µm thickness completely disappeared and no pieces of film could be retrieved after 4 weeks of composting.
- Despite its biodegradability, products made of Ecolene® F40T should only be disposed of in a controlled waste management environment.



Renewability – Biobased carbon content:

- Ecolene® F40T contains >50% of renewable raw materials
- The biobased carbon content according to ISO 16620-2 is 38% (as a fraction of total organic carbon content).

Composting test Ecolene® F40T (at 60°C)



After 2 weeks of composting

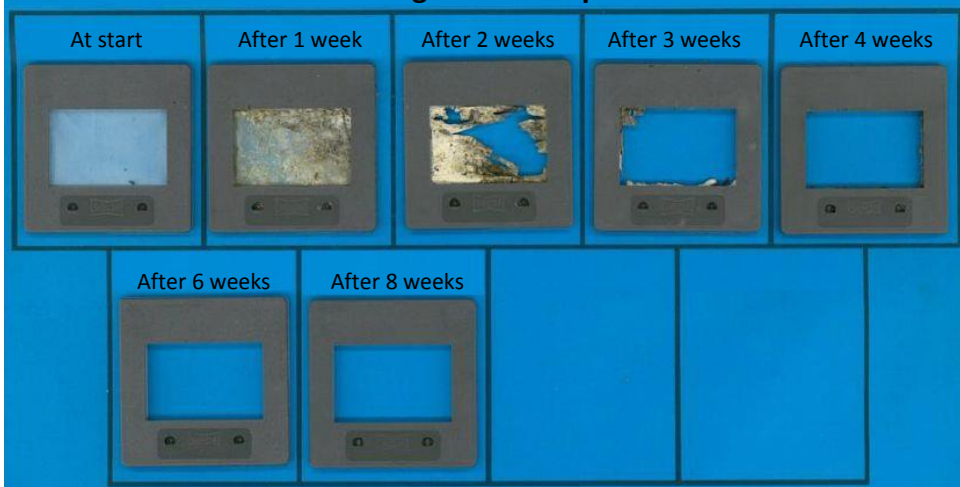


After 4 weeks of composting



After 6 weeks of composting

Evolution disintegration of 71µ Ecolene® film



Packaging and storage

Ecolene® resin is supplied in 25kg bags or 1T big bags. Transportation and storage temperatures should not exceed 70°C. Well packaged product should be stored under 23°C and used within 12 months.

Manufacturer



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