

## GREENFLEX<sup>®</sup>

FD 20

EVA

Ethylene vinyl acetate copolymer

Greenflex FD 20 is an ethylene vinyl acetate copolymer (EVA) suitable for blown film extrusion.

Films produced by Greenflex FD 20 exhibit good optical properties, high impact resistance, tensile strength, elongation at break and low creep.

### Main Application

Greenflex FD 20 is recommended for thermo-shrinkable films and multilayer stretch films for food packaging, included deep-frozen food packaging.

### Main Properties

Resin Properties	Value	Unit	Test Method
Melt Flow Rate (190 °C/2.16 kg)	0.5	g/10min	ISO 1133
Vinyl acetate content	5	%	Internal method
Density	0.924	g/cm <sup>3</sup>	ISO 1183
Melting Point	104	°C	Internal method
Brittleness temperature	< - 80	°C	ASTM D 746
Vicat softening point (1 kg)	85	°C	ISO 306/A

Film Properties *	Value	Unit	Test Method
Tensile stress at yield MD	8	MPa	ISO 527-3
Tensile stress at yield TD	8	MPa	ISO 527-3
Tensile strenght at break MD	26	MPa	ISO 527-3
Tensile strenght at break TD	26	MPa	ISO 527-3
Elongation at breack MD	450	%	ISO 527-3
Elongation at breack TD	600	%	ISO 527-3
1% Secant modulus MD	120	MPa	ISO 527-3
1% Secant modulus TD	125	MPa	ISO 527-3
Elmendorf tear resistance MD	26	N/mm	ISO 6383-2
Elmendorf tear resistance TD	40	N/mm	ISO 6383-2
Impact resistance F50 (Dart Drop Test)	420	g	ISO 7765-1
Dynamic coefficient of friction (COF)	> 0.5	-	ISO 8295
Haze	6	%	ISO 14782
Gloss, 45°	65	%	ASTM D 2541
Recommended film thickness	50 ÷ 200	micron	-

Film Properties **	Value	Test Method
ShoreA:	95	ISO 868 A
ShoreD:	44	ISO 868 A

\* film properties are typical of a blown film extruded at 200 C°. Actual properties may vary depending upon operating conditions and additive package.

\*\* values are referred to injection moulded specimens. Actual properties are typical and may vary depending upon operating conditions.

## Processing notes

Greenflex FD 20 can be processed by conventional blown film extrusion equipments. A stock temperature from 170°C to 200°C is recommended. Depending on extrusion conditions, the suggested film thickness is 50÷200 µm.

## Storage and Handling

Greenflex FD 20 is supplied in pellet form. This material may readily be conveyed and bulk fed through equipment designed for conventional pelletised polyethylene resin, provided the equipment is designed to prevent accumulation of the fines and dust particles that are contained in all polyethylene resins. These fines and dust particles can, under certain conditions, pose an explosion hazard. We recommend that the conveying system used be equipped with filters of adequate size, operated and maintained in such a manner to ensure that no leaks develop and earthed adequately. We further recommend that good housekeeping be practised throughout your facility.

The product should be stored in dry conditions at temperatures below 50°C and protected from sunlight.

Improper storage can initiate degradation which results in odour generation, colour changes and can have negative effects on the physical properties of the product.

Before using this product it is recommended to read and understand the relevant Safety Data Sheet.

## Availability

Contact the Versalis sales office nearest to you regarding availability and your specific application requirements.

## Food Contact Status

Greenflex FD 20 complies with the rules and regulations of the European Union, as well as other countries, regarding the use of plastic materials in food contact applications. Certificates of compliance are available upon request.

---

### TECHNICAL SERVICE

Versalis S.p.A.  
Piazza Boldrini, 1  
20097 S. Donato Milanese, Italia  
Tel. +39 02 520.1  
Fax + 39 02 520.42436

Polimeri Europa SAS  
1 Route des Dunes BP 59  
F-59279 MARDYCK - France  
Tel. +33 3 28235515  
Fax +33 3 28235520

Versalis S.p.A.  
Via Taliercio, 14  
46100 Mantova, Italia  
Tel. +39 0376 305667  
Fax +39 02 52043

---

### HEADQUARTER

Versalis S.p.A.  
Piazza Boldrini, 1  
20097 S. Donato Milanese, Italia  
Tel. +39 02 520.1  
Fax + 39 02 520.42436

---

**IMPORTANT:** please consult the relevant safety data sheet for more detailed information. The information and data presented herein are to the best of our knowledge true and accurate but no warranty or guarantee, expressed or implied, is made nor is any liability accepted with respect to the use of such information and data.

Versalis is available to provide the guaranteed values for each product on demand.