

**GREENFLEX®****FF 45**

EVA

Ethylene vinyl acetate copolymer

Greenflex FF 45 is an ethylene vinyl acetate copolymer (EVA) suitable for blown film extrusion.

Films produced with Greenflex FF 45 show high toughness.

**Main Application**

Greenflex FF 45 is recommended for the production of greenhouse film, stretch hood packaging and sanitary applications.

**Main Properties**

<b>Resin Properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Method</b>
Melt Flow Rate (190 °C/2.16 kg)	0.7	g/10min	ISO 1133
Vinyl acetate content	14	%	Internal method
Density	0.935	g/cm <sup>3</sup>	ISO 1183
Melting Point	93	°C	Internal method
Brittleness temperature	<- 80	°C	ASTM D 746
Vicat softening point (1 kg)	73	°C	ISO 306/A

<b>Film Properties *</b>	<b>Value</b>	<b>Unit</b>	<b>Test Method</b>
Tensile stress at yield MD	6	MPa	ISO 527-3
Tensile stress at yield TD	5	MPa	ISO 527-3
Tensile stress at break MD	31	MPa	ISO 527-3
Tensile stress at break TD	29	MPa	ISO 527-3
Elongation at break MD	450	%	ISO 527-3
Elongation at break TD	700	%	ISO 527-3
1% Secant modulus MD	65	MPa	ISO 527-3
1% Secant modulus TD	70	MPa	ISO 527-3
Elmendorf tear resistance MD	24	N/mm	ISO 6383-2
Elmendorf tear resistance TD	40	N/mm	ISO 6383-2
Impact resistance F50 (Dart Drop Test)	700	g	ISO 7765-1/A
Dynamic coefficient of friction (COF)	> 0.5	-	ISO 8295
Haze	1.5	%	ISO 14782
Gloss, 45°	80	%	ASTM D 2457
Recommended film thickness	50 ÷ 200	micron	-

<b>Film Properties **</b>	<b>Value</b>	<b>Test Method</b>
ShoreA:	92	ISO 868 A
ShoreD:	39	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 FF 45 can be processed by conventional blown film extrusion equipments. A stock temperature from 160°C to 190°C is recommended. Depending on extrusion conditions, the suggested film thickness is 30÷150 µm.

## Storage and Handling

Greenflex FF 45 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 should 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 FF 45 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 02 520.32087  
Fax +39 02 520.52052

Versalis International SA  
succursale française  
Port 4531 Route des Dunes - BP  
59  
F-59279 Mardyck

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 02 520.32087  
Fax +39 02 520.52052

---

**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.