



versalis

Technical Data Sheet

www.versalis.eni.com

info.polyethylene@versalis.eni.com

CLEARFLEX[®] H&T

DFH 20

LLDPE

Linear low density polyethylene

Clearflex DFH 20 is a Linear Low Density Polyethylene Resin butene comonomer produced by Unipol gas phase technology.

Clearflex DFH 20 exhibits a typical wide molecular weights distribution which gives an excellent processability together with good mechanical characteristics.

Main Application

Clearflex DFH 20 is mainly designed for the production of micro-irrigation tubes, durable hoses and pipes, extruded profiles and for the production by injection molding of fittings.

The outdoor use, requires the addition with anti-UV, to maintain excellent performance even after prolonged periods of exposure to sunlight.

Main Properties

Resin Properties	Value	Unit	Test Method
Melt Flow Rate (190 °C/2.16 kg)	0.65	g/10min	ISO 1133
Melt Flow Rate (190 °C/5 kg)	-	g/10min	ISO 1133
Melt Flow Rate (190 °C/21.6 kg)	44	g/10min	ISO 1133
Density	0.924	g/cm ³	ISO 1183
Melting point	120	°C	Internal method
Brittleness temperature	<- 60	°C	ASTM D 746
Vicat softening point (1 kg)	110	°C	ISO 306/A

Mechanical Properties *	Value	Unit	Test Method
Tensile stress at yield	11	MPa	ISO 527-3
Tensile stress at break	15	MPa	ISO 527-3
Tensile strain at yield	-	%	ISO 527-3
Elongation at break	> 800	%	ISO 527-3
Flexural modulus	310	MPa	ISO 178
Hardness Shore D	44	-	ISO 868 A
Falling Weight:	-	J	ISO 6603-2
Izod impact strength, notched	-	J/m	ASTM D 256
Environmental Stress Cracking Resistance (ESCR)	>500 *	h	ASTM D 1693(B)

(*) Values are referred to compression moulded specimens. Actual properties are typical and may vary depending upon operating conditions.

(**) Film properties are typical of blown film extruded at 1:4.5 blow up ratio; 210°C melt temperature, die gap 1.1 mm and thickness 25 µm.

(***) 100% surface-active agent – Condition B.

Processing notes

Clearflex DFH 20 is easily processable. Melt temperature should be between 190°C and 230°C.

Storage and Handling

Clearflex DFH 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 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

Clearflex DFH 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 Management Polietilene and Client Relationship

Center and South Europe and Americas

Versalis S.p.A.

Head Office
Piazza Boldrini, 1
20097 San Donato Milanese (MI) - Italy
tel. +39 02 52032087 + 39 02 52032190
tel. +39 02 52042005 + 39 02 52032319

Mantova
Via Taliercio 14 - 46100 Mantova (MN) - Italy
tel. +39 03 76305520 +39 03 76305741

North Europe and ROW

Versalis S.p.A.

4531 Route des Dunes - CS 20060 Mardyck 59279
Dunkerque - France
tel. +33 328235516

Duesseldorfer Str. 13
65760 Eschborn - Deutschland
tel +49 6196492249

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.

DISCLAIMER: it is the sole responsibility of the end-user to determine the safety, the regulatory compliance as well as the technical suitability of the product for the intended application. The product is not intended for use in medical devices and pharmaceutical applications; Versalis declines all responsibility and cannot be held liable in case of use in the above mentioned applications.