

Hytrel® 5033FG NC010 (PRELIMINARY)

THERMOPLASTIC POLYESTER ELASTOMER

Common features of Hytrel® thermoplastic polyester elastomer include mechanical and physical properties such as exceptional toughness and resilience, high resistance to creep, impact and flex fatigue, flexibility at low temperatures and good retention of properties at elevated temperatures. In addition, it resists many industrial chemicals, oils and solvents. Special grades include heat stabilised, flame retardant, food contact compliant, blow molding and extrusion grades. Concentrates offered include black pigments, UV protection additives, heat stabilisers, and flame retardants. Hytrel® thermoplastic polyester elastomer is plasticiser free.

The good melt stability of Hytrel® thermoplastic polyester elastomer normally enables the recycling of properly handled production waste. If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-24 kJ/g of base polymer) in appropriately equipped installations.

For disposal, local regulations have to be observed.

Hytrel® thermoplastic polyester elastomer typically is used in demanding applications in the automotive, fluid power, electrical/electronic, consumer goods, appliance and power tool, sporting goods, furniture, industrial and off-road transportation/equipment industry.

Hytrel® 5033FG NC010 is a medium modulus Hytrel® grade with nominal durometer hardness of 50D. It contains non-discoloring stabilizer. It is specially recommended for injection molding applications requiring high flow properties and developed for applications in contact with food.

Rheological properties

Melt mass-flow rate	20 g/10min	ISO 1133
Melt mass-flow rate, Temperature	220 °C	
Melt mass-flow rate, Load	2.16 kg	
Moulding shrinkage, parallel	1.5 %	ISO 294-4, 2577
Moulding shrinkage, normal	1.4 %	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	124 MPa	ISO 527-1/-2
Stress at 10% strain	7 MPa	ISO 527-1/-2
Tensile stress at break	32 MPa	ISO 527-1/-2
Tensile strain at break	>300 %	ISO 527-1/-2
Flexural modulus	121 MPa	ISO 178
Charpy notched impact strength, -40 °C	N kJ/m ²	ISO 179/1eA
Poisson's ratio	0.49	
Shore D hardness, 15s	43	ISO 48-4 / ISO 868
Tear strength, parallel	110 kN/m	ISO 34-1
Tear strength, normal	110 kN/m	ISO 34-1

Thermal properties

Melting temperature, 10 °C/min	202 °C	ISO 11357-1/-3
Vicat softening temperature, 50 °C/h 10N	171 °C	ISO 306

Hytrel® 5033FG NC010 (PRELIMINARY)

THERMOPLASTIC POLYESTER ELASTOMER

Physical/Other properties

Density	1160 kg/m ³	ISO 1183
---------	------------------------	----------

Injection

Drying Recommended	yes
Drying Temperature	100 °C
Drying Time, Dehumidified Dryer	2 - 3 h
Processing Moisture Content	≤0.08 %
Melt Temperature Optimum	230 °C
Min. melt temperature	220 °C
Max. melt temperature	250 °C
Mold Temperature Optimum	45 °C
Min. mould temperature	45 °C
Max. mould temperature	55 °C

Characteristics

Processing	Injection Moulding, Film Extrusion, Extrusion, Sheet Extrusion, Other Extrusion, Coatable, Casting, Thermoforming
Delivery form	Pellets
Special characteristics	Light stabilised or stable to light

The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.

© 2025 Celanese or its affiliates. All rights reserved. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC.