

DuPont™ Biomax® TPS 2702

Biomax® TPS resins Product Data Sheet

Description

Product Description DuPont(TM) Biomax(R) TPS 2702 is a renewably sourced offering formulated for injection molding. It is especially appropriate for molded parts that will be used in mostly dry conditions prior to disposal. It offers disposal alternatives to landfills as it can biodegrade in natural environmental conditions. It can be especially valuable where avoiding collection of the articles after outdoor use is desired.

*** Note: TPS 2702 is formulated to be water resistant for up to 4 weeks in certain application configurations / uses. For more information contact your DuPont representative

Restrictions

Material Status • Developmental: Active

Availability • Asia, Europe, North America, South America

Other Restrictions Excludes Australia and New Zealand

Typical Characteristics

Uses • Agricultural Applications
Containers
Packaging

Features *** NOTE on Melt Flow Rate:
--- in general Biomax TPS resins are viscous resins when dry for processing. The relative MFR can range from fractional such as 0.4 when very dry, heading up into the range of 3 to 20 MFR as moisture levels and TPS grade types change.
--- for more information, please consult a DuPont technical representative.

PHYSICAL Properties:
Max Tensile Stress: ----- 11 MPa
Elongation at Break ----- 2 %
Young's Modulus ----- 760 MPa
Izod Impact Strength ----- 25.6 J/m
Heat Deflection Temp ----- 44.9 C
Durometer Hardness ----- 53.6(Shore D)

Characteristics / Benefits Inherently grease- and oil-resistant amorphous resin, sealable, printable and laser etchable, Strong flavor and odor barrier
Renewably-sourced material solution, biodegradable when in contact with water

Applications Well-Suited for one-time use applications.

Typical Properties

Physical	Nominal Values	Test Method(s)	
Density ()	1.383 g/cm ³	ASTM D792	ISO 1183

Melt Flow Rate (190°C/2.16kg) *** see note above *** g/10 min ASTM D1238 ISO 1133

Thermal	Nominal Values	Test Method(s)	
Melting Point (Biomax(R) TPS is an amorphous polymer. Glass Transition Temperature (Tg) by DMA is reported here for reference.)	-24°C (-11°F)		
Vicat Softening Point ()	63°C (145°F)	ASTM D1525	ISO 306

Processing Information

General

Maximum Processing Temperature 200°C (392°F)

General Processing Information DRYING:
The resin should be dried at 70C. The length of time depends on the initial moisture content of the resin. Ideal injection molding processing moisture level is 2% to 3%. If you need additional information on drying technology, and / or appropriate methods and equipment for measuring moisture content of the polymer, please contact your DuPont Technical representative,

INJECTION MOLDING:
Best processing has been determined with a 3 zone screw used for polyolefins with a compression ratio of 2.3 to 1 or lower, ideally lower than 2 to 1.

Injection Molding Processing

	Nominal Values
Injection Processing Information	The mold temperature is recommended to be set initially at approximately 40C.
Feed Zone	130°C (266°F)
Second Zone	160°C (320°F)
Third Zone	160°C (320°F)
Fourth Zone	165°C (329°F)
Fifth Zone	165°C (329°F)
Adapter Zone	175°C (347°F)
Die Zone	175°C (347°F)

Regulatory Information

For information on regulatory compliance, consult your local DuPont representative.

Safety & Handling

Pellets become slippery when wet. Carefully wipe up pellets that have spilled onto wet floors to prevent slipping hazards. Avoid processing temperatures in excess of 200 deg. C (392 deg.F)

Biomax(R) TPS esins as supplied by DuPont are not considered hazardous materials. As with any hot material, care should be taken to protect the hands and other exposed parts of the body when handling molten polymer. At recommended processing temperatures, small amounts of fumes may evolve from the resins. When resins are overheated, more extensive decomposition may occur. Adequate ventilation should be provided to remove fumes from the work area. Disposal of scrap presents no special problems and can be by landfill or incineration in a properly operated incinerator. Disposal should comply with local, state, and federal regulations. Resin pellets can be a slipping hazard. Loose pellets should be swept up promptly to prevent falls. For more detailed information on the safe handling and disposal of DuPont resins, a Material Safety Data Sheet can be obtained from the DuPont Packaging and Industrial Polymers website or by contacting your sales representative.

Read and Understand the Material Safety Data Sheet (MSDS) before using this product

Regional Centres

DuPont operates in more than 70 countries. For help finding a local representative, please contact one of the following regional customer contact centers:

Americas

DuPont Company, BMP26-2363
Lancaster Pike & Route 141
Wilmington, DE 19805 U.S.A.
Telephone +1 302-774-1161
Toll-free (USA) 800-628-6208
Fax +1 302-999-4399

DuPont do Brasil, S.A.
Alameda Itapecuru, 506
06454-080 Barueri, SP Brasil
Telephone +55 11 4166 8122
Fax +55 11 4166 8720

Asia Pacific

DuPont China Holding Co., Ltd.
Shanghai Branch
399 Keyuan Road, Bldg. 11
Zhangjiang Hi-Tech Park
Pudong New District, Shanghai
P.R. China (Postcode: 201203)
Telephone +86 21 3862 2888
Fax +86-21-3862-2889

Europe / Middle East / Africa

DuPont de Nemours Int'l. S.A.
2, Chemin du Pavillon Box 50
CH-1218 Le Grand Saconnex
Geneva, Switzerland
Telephone +41 22 717 51 11
Fax +41 22 717 55 00

<http://biomax.dupont.com>

The data listed here fall within the normal range of properties, but they should not be used to establish specification limits nor used alone as the basis of design. The DuPont Company assumes no obligations or liability for any advice furnished or for any results obtained with respect to this information. All such advice is given and accepted at the buyer's risk. The disclosure of information herein is not a licence to operate under, or a recommendation to infringe, any patent of DuPont or others. Since DuPont cannot anticipate all variations in actual end-use conditions, DuPont makes no warranties and assumes no liability in connection with any use of this information.

CAUTION: Do not use DuPont materials in medical applications involving implantations in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-3 and DuPont CAUTION Regarding Medical Applications H-50102-3.

Copyright © 2009 DuPont. The DuPont Oval Logo, DuPont™, The miracles of science™, and trademarks designated with "®" are registered trademarks or trademarks of E.I. du Pont de Nemours and Company or its affiliates. All rights reserved.

This data sheet is effective as of 08/04/2009 03:48:07 PM and supersedes all previous versions.