



CONTINUUM™ DGDA-2420 YL Bimodal Polyethylene Resin

Overview CONTINUUM™ DGDA-2420 YL Bimodal Polyethylene Resin is produced using UNIPOL™ II process technology. This product is formulated with a UV stabilizer for outdoor storage. This product may be utilized for pipe applications where long-term hydrostatic strength combined with outstanding resistance to slow crack growth and rapid crack propagation is desired. Suitable applications include natural gas distribution pipes.

Industrial Standards Compliance

- ASTM D 3350: cell classification polyethylene PE234373E(a) (See NOTES 1)
- Plastics Pipe Institute (PPI): Yellow Pipe - PE 234373E(a) (See NOTES 2)
 - ISO PE 80 pipe grade -
 - ASTM PE 2708 pipe grade - 1250 psi HDB @ 23°C
- National Sanitation Foundation (NSF)
 - Yellow Pipe - (See NOTES 1)
 - Natural Pipe - Standard 14 and 61

NOTES:

- (1) The first five numbers of the cell classification are based on natural resin. The last number and letter are based on yellow resin (natural resin plus 2.0% DFDA-0024).
- (2) Natural resin extruded under proper conditions with yellow masterbatch DFDA-0024YL.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density			
--	0.941 g/cm ³	0.941 g/cm ³	ASTM D1505 ¹
--	0.944 g/cm ³	0.944 g/cm ³	ASTM D1505 ²
Melt Index (190°C/2.16 kg)	> 0.15 g/10 min	> 0.15 g/10 min	ASTM D1238
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength (Yield)	> 2600 psi	> 17.9 MPa	ASTM D638 ³
Tensile Elongation (Break)	> 600 %	> 600 %	ASTM D638 ³
Flexural Modulus - 2% Secant	> 90000 psi	> 621 MPa	ASTM D790B ^{4,3}
Hydrostatic Strength			ASTM D2837
73°F (23°C)	1 ksi	9 MPa	
140°F (60°C)	1 ksi	7 MPa	
Resistance to Rapid Crack Propagation, Full Scale Pc			ISO 13478 ⁵
32°F (0°C)	> 1 ksi	> 4 MPa	
Resistance to Rapid Crack Propagation, S-4 Pc			ISO 13477 ⁶
32°F (0°C)	> 145 psi	> 145 psi	
Resistance to Rapid Crack Propagation, S-4 Tc			ISO 13477 ⁷
--	< 28 °F	< -2 °C	
Slow Crack Growth PENT			
--	> 18 wk	> 18 wk	ISO 13479
--	> 89 wk	> 89 wk	ASTM F1473 ³
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Brittleness Temperature	< -103 °F	< -75.0 °C	ASTM D746A ³
Thermal Stability	> 428 °F	> 220 °C	ASTM D3350
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	380 to 440 °F	193 to 227 °C	

Extrusion Notes

Fabrication Conditions:

- Screw Type: Barrier
- Melt Temperature Range: 380-440°F (193-225°C)

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ Natural resin

² Natural resin extruded under proper conditions with yellow masterbatch DFDA-0024YL

³ Compression molded parts prepared according to ASTM D 1928 Procedure C. Properties will vary with changes in molding conditions and aging time.

⁴ Method I (3 point load)

⁵ Calculated value, determined by the equation in ISO 4437 based on S-4 test data. Pipe diameter of 12 inch IPS (30.5 cm) and Standard Diameter Ratio (SDR) 11.5.

⁶ Pipe diameter of 12 inch IPS (30.5 cm) and Standard Diameter Ratio (SDR) 11.5.

⁷ @ 5 bar, Pipe diameter of 12 inch IPS (30.5 cm) and Standard Diameter Ratio (SDR) 11.5.

Product Stewardship

The Dow Chemical Company and its subsidiaries ("Dow") has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our Product Stewardship program rests with each and every individual involved with Dow products — from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

Medical Applications Policy

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS: Dow will not knowingly sell or sample any product or service ("Product") into any commercial or developmental application that is intended for:

- long-term or permanent contact with internal bodily fluids or tissues. "Long-term" is contact which exceeds 72 continuous hours;
- use in cardiac prosthetic devices regardless of the length of time involved ("cardiac prosthetic devices" include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems, and ventricular bypass-assisted devices);
- use as a critical component in medical devices that support or sustain human life; or
- use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Dow requests that customers considering use of Dow products in medical applications notify Dow so that appropriate assessments may be conducted. Dow does not endorse or claim suitability of its products for specific medical applications. It is the responsibility of the medical device or pharmaceutical manufacturer to determine that the Dow product is safe, lawful, and technically suitable for the intended use. **DOW MAKES NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING THE SUITABILITY OF ANY DOW PRODUCT FOR USE IN MEDICAL APPLICATIONS.**

Disclaimer

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the Customer is responsible for determining whether products and the information in this document are appropriate for the Customer's use and for ensuring that the Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Dow assumes no obligation or liability for the information in this document. **NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.**

NOTICE: If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; (3) there is greater potential for Dow to change specifications and/or discontinue production; and (4) although Dow may from time to time provide samples of such products, Dow is not obligated to supply or otherwise commercialize such products for any use or application whatsoever.

Additional Information

North America		Europe/Middle East	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+32-3-450-2240
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
Latin America		South Africa	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	Asia Pacific	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

www.dowplastics.com

This document is intended for use within Asia Pacific, Latin America, North America

Published: 2008-09-10

© 2009 The Dow Chemical Company

