



CONTINUUM™
BIMODAL POLYETHYLENE RESINS

LAYING THE GROUNDWORK FOR
CLEANER, SAFER GAS PIPELINES



LEADING THE WAY IN PERFORMANCE & SAFETY

Pipe made with **CONTINUUM™ Bimodal Polyethylene Resins** offers gas utilities performance and safety far beyond that of unimodal polyethylene⁽¹⁾ with:

- **Industry-leading bimodal polyethylene technology**
 - CONTINUUM™ DGDA-2490 High Density Polyethylene (HDPE) for PE4710/PE100 pipe
 - CONTINUUM™ DGDA-2420 Medium Density Polyethylene (MDPE) for PE2708/PE80 pipe
- **Exceptional scratch and slow crack growth (SCG) resistance** for extended service life and enhanced pipeline integrity
- **Outstanding rapid crack propagation (RCP) resistance** for strength and durability in extreme cold weather
- **Excellent high temperature pressure rating** for use in stringent high temperature applications
- **Broader operating temperature window** for potentially lower costs, increased production output, improved flexibility, and recyclability compared to crosslinked polyethylene (PEX)
- **Large diameter and thick wall capabilities**
 - including diameters up to 16 inches

- **High fusion integrity with all MDPE and HDPE resins** – including PE2406, PE2708, PE3608, PE4710, PE80, and PE100 grades
- **Trench or trenchless (HDD) installation** – use of natural backfill⁽²⁾ with no sand bedding required significantly reduces HDD costs

HEAVY METAL-FREE FORMULATIONS NOW AVAILABLE

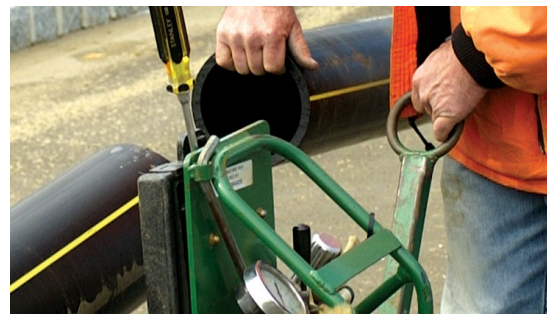
The trusted performance of CONTINUUM™ DGDA-2490 HDPE and DGDA-2420 MDPE Resins is also available in heavy metal-free (HMF) yellow formulations featuring:

- **No lead or cadmium-based pigments** – help protect the environment while enhancing workplace safety/health
- **Excellent weatherability** – HMF formulations meet and exceed ASTM D2513 UV resistance requirements (see Table 1, next page, for additional details)
- **More continuous processing** – less die drool reduces the need for shutdown/cleaning

MAKE THE SMART CHOICE

The strength, durability, and versatility of CONTINUUM™ Bimodal Polyethylene Resins creates opportunities to produce pipe with long service life expectancy, lower total life cycle costs, and improved operational safety – both today and as systems expand. The table on the next page provides more details on how CONTINUUM™ Resins are leading the way to cleaner, safer pipe.

Continuum
bimodal polyethylene resins by 



⁽¹⁾Data per tests conducted by Dow. Additional information available upon request.

⁽²⁾Up to ¾-inch size

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TABLE 1: CONTINUUM™ BIMODAL POLYETHYLENE RESINS SURPASS INDUSTRY STANDARDS⁽¹⁾

ATTRIBUTE/STANDARD	CONTINUUM™ DGDA-2490 BIMODAL HDPE RESIN	CONTINUUM™ DGDA-2420 BIMODAL MDPE RESIN
ASTM D2513	<ul style="list-style-type: none"> Meets and exceeds Tested for UV resistance under both ASTM G155 lab conditions and five years of unprotected direct sunlight exposure evaluation at four representative geographic locations in the U.S. 	<ul style="list-style-type: none"> Meets and exceeds Tested for UV resistance under both ASTM G155 lab conditions and five years of unprotected direct sunlight exposure evaluation at four representative geographic locations in the U.S.
DOT CFR Title 49, Chapter I, Part 192	<ul style="list-style-type: none"> Meets and exceeds 	<ul style="list-style-type: none"> Meets and exceeds
Cell Class Requirements	<ul style="list-style-type: none"> Exceeds ASTM PE4710 and ISO PE100 Meets CSA Z662-15 (PE4710 PLUS material) 	<ul style="list-style-type: none"> Exceeds ASTM PE2708 and ISO PE80 Meets CSA Z662-15 (PE2708 PLUS material)
Operating Temperature Window	<ul style="list-style-type: none"> 14 to 80°C (57 to 176°F) 	<ul style="list-style-type: none"> Up to 60°C (140°F)
SLOW CRACK GROWTH (SCG) RESISTANCE		
Pennsylvania Notch Test (PENT [ASTM F1473])	<ul style="list-style-type: none"> > 10,000 hours 	<ul style="list-style-type: none"> > 15,000 hours
ASTM D2513 PE4710/PE2708	<ul style="list-style-type: none"> Up to >20 times 	<ul style="list-style-type: none"> Up to >30 times
RAPID CRACK PROPAGATION (RCP) RESISTANCE		
Critical Temperature (T _c) [ISO 13477 S4]	<ul style="list-style-type: none"> -17°C (~1°F)⁽²⁾ [Typical unimodal HDPE resins only offer protection above 9°C (48°F)⁽³⁾] 	<ul style="list-style-type: none"> -2°C (28°F)⁽⁴⁾ [Typical unimodal MDPE resins only offer protection above 18°C (64°F)⁽³⁾]
Critical Pressure (P _c) [ISO 13477 S4]		
Small Scale Steady State RCP	<ul style="list-style-type: none"> > 12 bar (174 psig)⁽²⁾ 	<ul style="list-style-type: none"> > 10 bar (145 psig)⁽⁴⁾
Full Scale RCP	<ul style="list-style-type: none"> > 46 bar (664 psig)⁽⁵⁾ 	<ul style="list-style-type: none"> > 39 bar (560 psig)⁽⁶⁾
ISO	<ul style="list-style-type: none"> ≥ 3 times ISO PE100 (SDR 11 pipe at 10 bar MOP) 	<ul style="list-style-type: none"> ≥ 3 times ISO PE80 (SDR 11.5 pipe at 5 bar MOP)
HIGH TEMPERATURE PRESSURE RATING		
HDS at 60°C (140°F)	<ul style="list-style-type: none"> 1,000 psi⁽⁷⁾ 	<ul style="list-style-type: none"> 1,000 psi⁽⁷⁾
ASTM and ISO	<ul style="list-style-type: none"> Meets or exceeds ASTM PE4710 and ISO PE100 	<ul style="list-style-type: none"> Meets or exceeds ASTM PE2708 and ISO PE80
Plastics Pipe Institute (PPI)	<ul style="list-style-type: none"> First pipe material to be listed with a 100-year pressure rating⁽⁸⁾ 	—
PE100+ Association	<ul style="list-style-type: none"> Meets PE100+ material test requirements 	—

⁽¹⁾ Data per tests conducted by Dow. Additional information available upon request.

⁽²⁾ RCP data generated using 10" SDR 11 pipe and tested at 10 bar MOP.

⁽³⁾ GRI Report 5092-260-2356, 1998.

⁽⁴⁾ RCP data generated using 12" SDR 11.5 pipe.

⁽⁵⁾ 10" SDR 11 pipe, Full Scale Critical Pressure at 0°C, calculated from S4 RCP data.

⁽⁶⁾ 12" SDR 11.5 pipe, Full Scale Critical Pressure at 0°C, calculated from S4 RCP data.

⁽⁷⁾ Contact your Dow representative regarding other elevated temperature categorized required strength (CRS) listings for CONTINUUM™ Bimodal Polyethylene Resins.

⁽⁸⁾ PPI TR-4 100-year pressure rating at 20°C (68°F) MRS 10.0 using ISO 9080.



FOR MORE INFORMATION ABOUT CONTINUUM™ BIMODAL POLYETHYLENE RESINS, PLEASE CONTACT YOUR DOW REPRESENTATIVE, VISIT WWW.PLASTICPIPES.COM, OR CALL THE NEAREST DOW LOCATION LISTED ON THE FOLLOWING PAGE.

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