



DOWLEX™ 2388 Polyethylene Raised Temperature Resistant (PE-RT) Resin for Hot and Cold Water Distribution



Main Characteristics

DOWLEX™ 2388 PE-RT Resin is an ethylene-octene-1 copolymer produced in the proprietary solution process of The Dow Chemical Company ("Dow"). It has a unique molecular structure with a controlled side chain distribution, which provides excellent stress crack resistance properties combined with outstanding long term hydrostatic strength. It has a high resistance to the oxidation caused by chlorinated water which makes it suited for plumbing pipes conducting water subjected to disinfection techniques. Its main characteristics are the following:

- Suitable for elevated temperatures without crosslinking
- Outstanding taste and odor performance
- Excellent processability
- CL 5 resistance to chlorinated water (as per ASTM F2023 and F2769)

Key Applications

Pipes for hot and cold water systems, e.g.:

- Hot and cold drinking water distribution
- Radiator connections
- Heating and cooling applications
- Mono- and multi-layer pipe application

Processing Recommendations

DOWLEX™ 2388 PE-RT is easy to process on traditional PE processing equipment. Typical extrusion temperatures for processing range from 190 °C to 230 °C. For further information see our Extrusion Guideline.

DOWLEX™ 2388 PE-RT should comply with FDA regulation 177.1520 and EU-Directive 10/2011 when used unmodified and processed according to good manufacturing practices. Please contact your nearest Dow office to obtain a detailed food contact compliance statement. The purchaser remains responsible for determining whether the use complies with all relevant regulations.

Oxidative Resistance Classification Code	Extrapolation Conditions	Extrapolated Time-to-Failure (y)	Minimum Requirement for F2769 (y)
CL5	100% at 60 °C (140 °F)	90	50
CL3	50% at 60 °C (140 °F) and 50% at 23 °C (73 °F)	180	50
CL1	25% at 60 °C (140 °F) and 75% at 23 °C (73 °F)	360	50

Properties ⁽¹⁾			S.I.
Physical	Test Method	Unit	Values
Melt Index, 190 °C/2.16 kg	ISO 1133	g/10 min	0.55
Melt Index, 190 °C/5 kg	ISO 1133	g/10 min	1.9
Density	ISO 1183	g/cm ³	0.941
Vicat Softening Point	ISO 306	°C	125
Thermal Conductivity at 60 °C	DIN 52612-1	W/(m K)	0.4
Thermal Expansion Coefficient	DIN 53752 A (20 °C to 70 °C)	cm/cm/°C	0.00018
Mechanical ^(1,2)			
Hardness, Shore D	ISO 868	-	61
Tensile Yield ⁽³⁾	ISO 527-2	MPa	20.3
Tensile Yield Elongation ⁽³⁾	ISO 527-2	%	14
Ultimate Tensile ⁽³⁾	ISO 527-2	MPa	37
Ultimate Elongation ⁽³⁾	ISO 527-2	%	780
Flexural Modulus	ISO 178	MPa	660
Elastic Modulus	ISO 527-2	MPa	645
Izod Impact	ISO 180	kJ/m ²	23.0

⁽¹⁾ These are typical properties only and are not to be regarded as sales specifications.

Users should confirm results by their own tests.

⁽²⁾ Compression moulded samples (2 mm thick).

⁽³⁾ Crosshead speed 50 mm/min.

Dow: A Track Record of Commitment to Plastic Pipes

Dow has over 30 years of experience in the pipe industry and works with the world's leading pipe producers and extruder manufacturers to develop superior pipe products. The Company operates pipe technology R&D centers around the world and is constantly working to improve existing resins and develop new materials that help piping systems of all kinds operate at maximum performance.

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