

XL-PEARL™ 60

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Description

XL-PEarl 60 blend is for the manufacture of dry silane masterbatches based on porous polymer carriers. XL-PEarl 60 blend is a crosslinking system designed for crosslinking high-density polyethylene (HDPE) pipe using the XL-PEarl blend one-step process.

It is only available for licensees of the XL-PEarl blend technology.

Key Features and Benefits

- Pipes manufactured using the XL-PEarl blend technology have excellent mechanical properties, outstanding chemical resistance and may be used at temperatures up to 110°C (230°F)
- Special stabilizers prevent premature polymerization of the grafting agent and provide excellent aging properties of crosslinked polyethylene
- High quality surface finish of pipes results from use of the XL-PEarl blend system

Typical Physical Properties

Appearance	Clear liquid
Color	Colorless to straw
Viscosity, mPa s (cP), @ 23°C	2.5
Specific Gravity, g/cm ³ , @25°C	0.969
Flash Point, Tag Closed Cup, ASTM D56-79, °C	23

Potential Applications

Manufacturing of XL-PEarl 60 blend masterbatches for the crosslinking of high-density

polyethylene (HDPE) pipes for under-floor heating, hot water pipes for radiators and potable water distribution.

Patent Status

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Product Safety, Handling and Storage

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Processing Recommendations

Performance

High-density polyethylene pipes crosslinked with XL-PEarl 60 blend masterbatches, a suitable stabilizer masterbatch (such as A/O 7017-FT-50 (PolyOne), REX-Stab T-59 (Polyrex), PLP 2020 STMB (Plascom), PE A/O 02012 (Vibatan) etc.) can meet following specifications:

- DIN 16892 (Rohre aus vernetztem Polyethylen)
- EN (155 WI 023)

Application-Potable Water Pipe:

Extruder	Troester 45mm/25L/D
Base Polymer	Lupolen 5031L
Barrel Temperature	170 / 180 / 190 / 200 / 210°C

		3.4% XL-PEarl 60 Blend Masterbatch PE 50 + 5%	3.6% XL-PEarl 60 Blend Masterbatch PE 50 + 5%
Extruder Parameter RPM Melt Temperature Surface Finish	°C	10 223 Smooth	10 224 Smooth
Gel Content	DIN 16892	72%	77%

Recommended Resins Are:

Type of HDPE Resin	Recommended	BestPerformance
Melt index (190°C/2.16 kg), g/10 min	0.2 -8	6 -8
Density, g/cm ³	0.945-0.955	0.950

Commercially Available HDPE Resins:

HDPE	From	MFI	Density
Lupolen 5031L	Elenac	5-7	0.952
Eltex A4040	Solvay	4	0.944
Eltex B4002	Solvay	0.3	0.949

Limitations

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