

## XL-PEARL™ 31

### XL-PEARL© 31

#### Description

XL-PEARL 31 blend is for the manufacture of dry silane masterbatches based on porous polymer carriers. XL-PEARL 31 blend is a crosslinking system developed for the manufacture of crosslinked LLDPE low- and medium-voltage cables using the XL-PEARL blend one-step process.

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

#### Key Features and Benefits

- XL-PEARL 31 blend can be used with a wide range of stabilized LLDPE, MDPE and HDPE poly ethylene grades for optimum costeffectiveness. This also applies for nonstabilized resin used in association with an antioxidant masterbatch
- A high onset temperature of the silane crosslinking agent improves process stability and minimizes pregrafted/crosslinked particles in the insulation layer

#### Typical Physical Properties

|  |              |
|--|--------------|
| Appearance                                   | Clear liquid |
| Color  | Light yellow |
| Viscosity, mPa s (cP), @ 23°C                | 2.2          |
| Specific Gravity, g/cm <sup>3</sup> , @ 23°C | 0.962        |
| Flash Point, Tag Closed Cup, ASTM D56-79, °C | 23           |

#### Potential Applications

Manufacturing of XL-PEARL 31 blend masterbatches for the crosslinking of low- and medium-voltage power cables based on stabilized polyethylene resins.

**Patent Status**

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**Product Safety, Handling and Storage**

The Self-Accelerating Decomposition Temperature (SADT) of XL-PEARL 31 blend in 217L drums is predicted to be above 65°C (149°F). However, it is recommended that drums of XL-PEARL 31 blend not be stored or shipped at temperatures above 30°C (86°F), since some degradation of product may occur.

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**Processing Recommendations**

Recommended resins

XL-PEARL 31 blend can be used either with nonstabilized polyethylene resins and an antioxidant masterbatch or with stabilized cable grade resins. Recommended types are:

- Exxon Escorene LLN 1004YB, in conjunction with a stabilizer masterbatch
- BP 3000 series
- Aspel 1200 - 1600 series

Other polyethylene resins should have the following properties:

|               |                             |                                  |
|---------------|-----------------------------|----------------------------------|
| LDPE resins:  | Melt index (190°C/2.16 kg): | 0.2 to 0.5 g/10 min.             |
|               | Density:                    | 0.915 to 0.935 g/cm <sup>3</sup> |
| LLDPE resins: | Melt index (190°C/2.16 kg): | 0.5 to 6 g/10 min.               |
|               | Density:                    | 0.900 to 0.935 g/cm <sup>3</sup> |

**Limitations**

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