

## Silcat\* R

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#### Description

Performance properties of silane- crosslinked polyethylene can meet or exceed those of peroxide- crosslinked polyethylene, while offering advantages in broader processing latitude and lower fabrication costs. Silcat R crosslinking vinyl silane incorporates grafting and crosslinking catalysts in a ratio suitable for cross linking polyethylene in commercially available extrusion equipment. Silcat R crosslinking silane modifies polyethylene resins chemically during melt processing (i.e., extrusion) and effects polymer crosslinking upon exposure of the fabricated polyethylene to moisture.

#### Key Features and Benefits

- Higher maximum use temperature
- Reduced deformation under load (creep)
- Improved chemical resistance
- Superior environmental stress crack resistance
- Increased abrasion resistance
- Memory characteristics (for shrink film and tubing)
- Improved impact strength

#### Advantages of Silane Versus Radiation or Peroxide Crosslinking

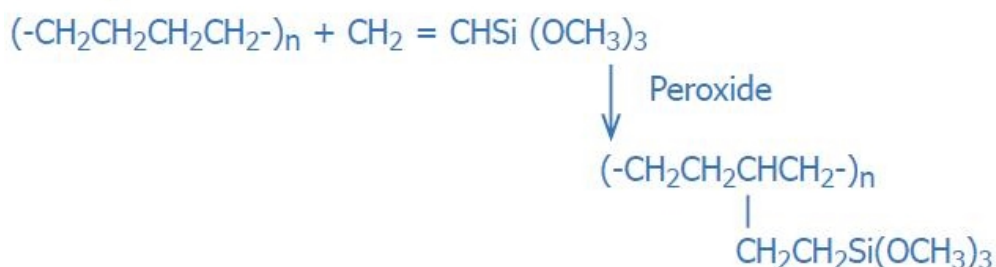
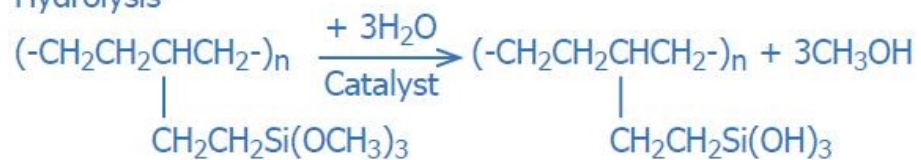
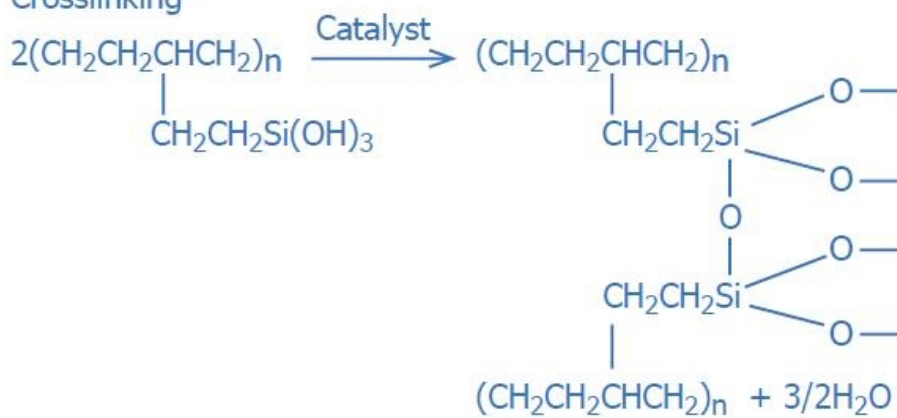
- Low capital investment
- Low operating costs
- Higher productivity
- Processing versatility
- Thick, thin, or variable thickness possible
- Complex shapes possible
- Wider processing latitude (control of premature crosslinking)
- Useful with filled composites
- Applicable to all polyethylene densities and copolymers

#### Typical Physical Properties

Physical Form	Clear liquid
Flash Point, Tag Closed Cup, ASTM D56-79, °F (°C)	68 (20)
Specific Gravity at 25/25°C	0.9762
Viscosity at 25°C, cSt	0.7
Color	Light straw

**Reaction Sequence**

The following reactions describe the basic chemistry:

**Grafting****Hydrolysis****Crosslinking**

### **Patent Status**

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

### **Product Safety, Handling and Storage**

NEVER STORE THIS PRODUCT ABOVE 55°C (131°F)!

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