

Aquathene™

# AQ120000

Ethylene Vinylsilane Copolymer

Wire and Cable Grade

Melt Index 1.5 Density 0.923

## Applications

AQUATHENE AQ120000 is an ethylene vinylsilane copolymer designed for use in low voltage, power cable applications. This natural resin can be crosslinked, by exposure to moisture after extrusion with an appropriate catalyst.

## Processing Techniques

AQ120000 can be extruded using conventional extrusion equipment. For example, AQ120000 has been extruded successfully using a 2 .5", 20:1 extruder equipped with a Maddock mixing screw under the following conditions.

| Extruder Zone | Temperature   | Extruder Zone | Temperature   |
|---------------|---------------|---------------|---------------|
| Feed          | 135°C / 275°F | Zone 4-X      | 160°C / 320°F |
| Zone 2        | 145°C / 293°F | Adapter       | 165°C / 329°F |
| Zone 3        | 155°C / 311°F | Die           | 170°C / 338°F |

Crosslinking of the total system, AQ120000 and an appropriate crosslinking catalyst such as AQUATHENE [CM04482](#) or [CM04483](#) occurs after the materials are mixed during extrusion and exposed to moisture. Crosslinking can be achieved by exposure to steam, immersion in hot water or storage at ambient conditions. The time required to achieve crosslinking depends on the catalyst masterbatch and temperature of the moisture. Because conditions can vary considerably, contact your Equistar sales representative for detailed recommendations.

AQ120000 should be stored separately from the crosslinking catalyst masterbatch until extrusion. This resin can be stored in bulk for several months without special packaging and should not require drying prior to extrusion.

## Typical Properties

| Property*              | Nominal Value | Units             | ASTM Test Method |
|------------------------|---------------|-------------------|------------------|
| Melt Index             | 1.5           | g/10 min          | D 1238           |
| Density                | 0.923         | g/cm <sup>3</sup> | D 1505           |
| Tensile Stress @ Break | 1920 (13.3)   | psi (MPa)         | D 638            |
| Elongation @ Break     | 720           | %                 | D 638            |

\*All properties determined from compression molded plaques.

The values listed for physical electrical properties are nominal values only and are subject to normal variations consistent with the test methods and/or variations found acceptable to the industry.