

# Sealtronic 20AC-7V

## Epoxy Encapsulating Resin

### Product Description:

Sealtronic is a two-part epoxy compound developed for the communications and electronics industries as a means to protect circuits and other sensitive components.

#### Sealtronic protects electronics in three ways:

1. Sealtronic is completely non-porous and waterproof. An electronic component, if it has been encapsulated in Sealtronic, can literally be submerged in water and remain functional (e.g.: oceanography).

2. Sealtronic is incredibly tough and resistant to impact. A component properly potted in Sealtronic is immune to virtually all temperatures and forms of impact and mechanical abuse. IFI's Sealtronic can be machined with all metal working tools (e.g.: drilling, tapping, lathe work).

3. Sealtronic provides technology security. A component sealed in Sealtronic is protected from both mechanical and visual analysis. Custom colours are available.

Sealtronic was developed over several years, to cure with less than one half of one percent shrinkage. Shrinkage can induce strains on sensitive electronic components during the curing process. In addition, Sealtronic's rate of curing is controlled to the point where the heat generated during the cure is also minimal.

### Technical Notes:

#### PHYSICAL PROPERTIES:

Mix Ratio .....	1:1 by volume
.....	1:1 by weight
Total solids .....	100%
Viscosity(Mixed) .....	1500-2000 cps
Colour .....	Black, Clear, or Custom
Heat Deflection Temperature .....	101°C
Working Time @ 20°C .....	120 minutes
Cure Time(500 ml mixture)	
20°C(68°F) .....	24 hours
65°C(150°F) .....	2 hour
Flexural Strength .....	9700 psi
Flexural Modulus .....	3.50X10 <sup>5</sup> psi
Compressive Strength (at yield) .....	12,400 psi
Tensile Strength .....	8300 psi
Ultimate Elongation .....	3.9%
Izod Impact Strength .....	0.5 ft.lb/in. notch
Hardness(Rockwell M) .....	80

Kit sizes available (US):  
2-gallon/5-gallon/10-gallon

### Application:

Surface preparation: Surfaces to be encapsulated should be clean and dry. If component is to be removed from a mold after being potted, the mold should first be coated with a mold release or parting agent.

Mixing : combine equal volumes of resin and hardener. Stir thoroughly and pour into casting mold. **Note:** All epoxies experience long cure times to reach 100% polymerization (cure); at 80-90% of polymerization, the product is hard and can be considered to be functional. 100% polymerization (and 100% strength) occurs in 7 days.

### Summary of Features:

- Proven over more than 30 years of usage in the electronics industry.
- Non-porous, water and chemical resistant.
- Extremely impact resistant (contains a form of nylon).
- Affords total security, once cast it cannot be removed either mechanically or chemically.
- Very low shrinkage during cure, less than one half of one percent.
- Excellent machining properties.
- Non-conductive, an electric insulator.
- Low toxicity (non-regulated for transportation).
- Can be made fire retardant.
- Long pot life.

#### ELECTRICAL PROPERTIES:

Dielectric Constant	
Frequency 60 Hz .....	3.23
10 <sup>3</sup> Hz .....	3.68
10 <sup>6</sup> Hz .....	2.99

#### Dissipation Factor, Condition A

Frequency (Hz) 60 Hz .....	.0036
10 <sup>3</sup> Hz .....	.0070
10 <sup>6</sup> Hz .....	.0190

Volume Resistivity(ohm-cm) ..... 1.22X10<sup>16</sup>

Surface Resistivity (ohm) ..... 5.50X10<sup>15</sup>

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