*Technical Data Sheet*

# Cable Fill 223-87-1

*Cox Sales Company 40 Durometer Addition Cure Silicone Elastomer*

## Product Description

The 223-87-1 specification covers the engineering requirements for a two component platinum-catalyzed elastomer that cross links at room temperature. The silicone elastomer is used as a void filler and blocking compound in electro-mechanical cables. The high viscosity is ideal for filling large diameter cable. The cured rubber has excellent mechanical properties and good shelf life stability.

## Key Features

- Good Physical Properties
- 1:1 mix ratio
- Machine or hand mix

## Typical Properties

| **UNCATALYZED PROPERTIES** | |
|---|---|
| Mix Ratio | 1:1 **by weight** |
| Mix Ratio | 1:1 **by volume** |
| | |
| **BASE** | **223-87-1A** |
| Base Appearance | Black |
| Base Viscosity, cps | 110,000-170,000 |
| Base Specific Gravity, $g/cm^3$ | 1.16-1.20 |
| | |
| **CATALYST** | **223-87-1B** |
| Catalyst Appearance | White |
| Catalyst Viscosity, cps | 130,000-170,000 |
| Catalyst Specific Gravity, $g/cm^2$ | 01.18-1.25 |

## Typical Properties Continued

| CATALYZED PROPERTIES - 223-87-1 | |
|---|---|
| **PROPERTY** | |
| Catalyzed Color | Black |
| Catalyzed Viscosity, cps | 130,000-170,000 |
| Pot Life(1)(minutes) | 45-90 |

| TYPICAL CURED PROPERTIES (3 DAYS @ 25C) | |
|---|---|
| Durometer, Shore A | 40±5 |
| Tensile Strength, psi | >400 |
| Elongation, % | >200 |
| Tear Strength, ppi | >40 |
| Linear Shrinkage, % | <0.1 |
| Dielectric Strength, Volts/mil | >400 |
| Dielectric Constant | 3.50 |
| Dissipation Factor | 0.00 |
| Volume Resistivity | $1.97 \times 10^{15}$ |
| Useful Temperature Range | -60C to 204C |

(1)Pot Life is defined as the time at which the viscosity has doubled.

## Cure Characteristics

The curing process begins as soon as the catalyst is mixed with the base. Under normal temperature (25C) and humidity (50% RH) conditions, the material will cure as described in the data above. Because this system is sensitive to heat and humidity, a change in cure speed may be seen if one or both of these variables are altered. Any large difference in temperature (+/-5C) or humidity (>60-70%) may change the cure profile of the material. For best results, 223-87-1A and 223-87-1B components of the **same lot number** should be used.

### Mixing and De-aeration

The following procedure should be followed for obtaining optimal performance.

Charge 100 parts, **by weight**, of 223-87-1A and 100 parts, **by weight**, of 223-87-1B into a clean, compatible metal or plastic container. **When hand mixing; accurate weighing of components on a suitable scale is essential for optimal product performance.** Shake the catalyst well before use. The volume of the container should be 3-4 times the volume of the material to be mixed. This allows for expansion of the 223-87-1 as it de-gasses.

Mix thoroughly by hand or with mixing equipment while minimizing air entrapment until a homogeneous mixture is obtained. This will occur when the material takes on a uniform color with no visible striations. Once mixing * is complete it is recommended that the material be de-aired 2-3 times by intermittent evacuation for a few minutes to minimize any imperfections due to bubbles in the cured material. Typically

after releasing the vacuum 2-3 times the mass will collapse on itself at which time the vacuum should be left on only 2-4 minutes longer.

*** Machine mixed material does not normally need to be de-aired.**

## Shelf-life and Storage

223-87-1A and 223-87-1B should be stored in their original, sealed containers in an environment that does not exceed 90F. Under these conditions the expected shelf-life of the material is 12 months.

## Not for Product Specification

The technical data listed herein is provided as a reference only and **is not** intended as sales specifications. For sales and technical assistance or for product recommendations, please call (540) 345-2636.

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