

C-RAM™ KRS

Iron filled silicone casting resin for RF loads

Description

C-RAM™ KRS is a series of two part liquid RTV silicone casting resin kits which can be used to mold wave guide terminations, attenuators, loads, RF gaskets, and other radar absorber parts. When cured, the material converts to a flexible, high temperature silicone rubber. Parts cast from C-RAM™ KRS have the same performance as parts machined from sheets of C-RAM™ RGD-S. C-RAM™ KRS is available in the same grades as C-RAM™ RGD-S.

A non-rusting version of the C-RAM™ KRS is available in one grade only, denoted KRS-115-IS.

C-RAM™ KRS will cure and adhere to itself or to other silicone surfaces, however, it will release from most substrates. If adhesion is required, a primer must be used.

Availability

C-RAM™ KRS is available in two-part kits in the following sizes:

- 3 lb pint (1.35 kg total weight)
- 6 lb quart (2.7 kg total weight)
- 25 lb gallon (11.3 kg total weight)

Shelf life is at least 12 months when stored in unopened containers. It may be necessary to power stir the contents as settling may occur.

Completed machined pads are available as C-RAM™ RGD-S.

Typical properties

Cured parts of C-RAM™ KRS have essentially the same properties as the equivalent grade of C-RAM™ RGD-S.

Specific gravity:

KRS-124	4.5
KRS-117	4.2
KRS-116	3.7
KRS-115-IS	2.9

For C-RAM™ KRS-124, the following properties apply:

Thermal expansion per °C:	60×10^{-6}
Therm. conductivity:	.0021 cal-cm/sec-cm ² -°C
(6.0 BTU-in/hr-ft ² -°F)	
Service temperature:	-55 to +200 °C
	(-65 to +400 °F)

Outgassing

(%TML) (%CVCM)	0.23 / 0.05
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Hardness, shore A:	75
Water absorption, 24 hrs:	<0.1%
Volume resistivity, ohm-cm:	>1010
Dielectric strength, kv/mm:	>400 (>100 V/mil)

Method of application

Prepare mold or cavity to be filled. C-RAM™ KRS will adhere to most silicones and release well from most other substrates. If adhesion is desired, use a thin coat of primer. In molding operations where the highest release is required, a wax mold release will be beneficial.

Kits are supplied as Part A (silicone resin plus filler) and Part B (curing agent). Stir the contents of part A thoroughly, preferably using a power mixer, to disperse settled filler.

3) Measure out the material required, combine Parts A and B in the proportions listed below. Mix the two parts together. A power mixer is preferred. Pot life is approximately 1 hour.

Parts by weight	KRS-124	-117	-115-IS	-116
A	100	100	100	100
B	1.08	1.30	2.10	1.70

Best results are obtained by vacuuming the mixture. Pour the material into the prepared mold or cavity taking care not to entrap air.

Cure the material at room temperature overnight, or at 80 °C (175 °F) for three hours. At usage temperatures above 120 °C (250 °F), a post cure at or above the usage temperature for approximately eight hours is recommended.

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