

Product Data

RTV12

RTV12 is a clear two-component, low viscosity potting compound that cures at room temperature to a soft pliable rubber. RTV12 will cure in deep sections without additional heating or moisture. RTV12 has been designed to achieve primerless adhesion to many substrates, including metals, plastics and ceramics, typical of those found in electronic assemblies.

RTV12CE curing agent is mixed with RTV12A base compound producing a clear cured rubber to provide see-through properties in greater thicknesses. RTV12 allows visual observation of the components during pouring and easy identification, repair, and replacement of components when necessary.

RTV12 is suggested for evaluation as a potting material to provide environmental protection to electrical and electronic assemblies. When cured, the soft, rubbery property of RTV12 rubber cushions against mechanical shock and vibration. The excellent electrical properties make it a candidate material for both high and low voltage electrical assemblies.

Key Features and Typical Benefits

- Clear to allow easy identification of components
- Room temperature cure
- Excellent electrical properties
- Specially formulated to minimize copper corrosion
- Easily flows in and around complex electronic assemblies
- Useful temperature range -60 ~204°C
- Easy to use on production line may be mixed by hand or machine

Typical Physical Properties

Uncured Properties		RTV12 (A)	RTV12(CE)
Color		Clear, Slight Haze	Clear
Viscosity	cps	1300	15
Density	g/cm ³	1.0	0.84
Solvent		None	Mineral Spirits
Mixing ratio by weight		20 : 1	
Catalyzed viscosity at 5 min	cps	1150	
Catalyzed viscosity at 30 min	cps	2100	
Catalyzed viscosity at 60 min	cps	3720	

Gel Time at 25°C (77°F)	min	115
Cured Properties (24h press + 48h at 25°C 50% RH)		
Density	g/cm ³	1.0
Hardness (shore A) at 3 days		12
Dielectric Strength	v/mil	390
Dielectric Constant (1kHz)		2.6
Dissipation Factor (1kHz)		0.0019
Volume Resistivity	Ω·cm	1.8×10 ¹²

Typical properties are average data and should not be used as or to develop specifications.

Mixing

RTV12A base compound is mixed with RTV12CE curing agent in a 20:1 ratio by weight. The base compound and curing agent must be weighed and measured to insure the proper 20:1 blend ratio. Using less curing agent will result in a softer rubber after cure. Thoroughly mix the RTV and the curing agent using clean tools. Scrape the side and bottom of the container several times to produce a homogeneous mixture. When using power mixers avoid excessive speeds which could entrap large amounts of air or cause overheating of the silicone and resultant shortening of work life.

Deaeration

Air entrapped during mixing must be removed to eliminate voids in the cured product. Expose the mixed material to a vacuum of about 25 mm (29 inches) of mercury. The material will expand, crest and recede to about the original level as the bubbles break. Degassing is usually complete about two minutes after frothing ceases. When using the RTV for potting, deaeration may be necessary after pouring to avoid trapping air in complex assemblies. Automatic equipment designed to meter, mix, deaerate, and dispense two-component RTV silicone rubber compounds will add convenience to continuous or large volume operations.

Curing

RTV12A mixed with RTV12CE curing agent will gel in approximately two hours at room temperature. This permits handling a potted container without spilling the contents (even if inverted). However, complete cure requires 72 hours at room temperature. Laboratory curing tests should be run prior to production to determine the appropriate cure for a specific potted assembly. Longer cure times may be required for large and deep section assemblies.

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