

IVS4312

**Optical Device Coating**

**Product Description**

**IVS4312** is a two-component, transparent, liquid, heat curable silicone rubber designed for optical device coating. IVS4312 is self-bonding and shows good primerless adhesion to a broad range of substrates.

**Key Performance Properties**

- Low viscosity for excellent flowability
- Excellent transparency
- Convenient 1:1 mix ratio by weight
- Selfbonding to a broad range of substrates
- Heat accelerated cure
- Non-corrosive to metals

**Applications**

- Coating and potting of optical devices

**Typical Product Data**

Uncured Properties		A	B
		Appearance	Transparent
Viscosity @ 23°C	mPa·s	1200	800
Viscosity after mixing @ 23°C	mPa.s	1000	
Mix ratio by weight		1:1	
Pot life	hrs	6	
Refractive index ND <sub>25</sub>		1.41	

**Typical Product Data**

Cured Properties (60 min. at 150 °C)		
Density @ 23°C	g/cm <sup>3</sup>	0.99
Hardness	Shore A	29
Tensile Strength	MPa	0.8
Elongation	%	110
Lap shear strength *	MPa	0.3
Coefficient of linear expansion	m/m.K	3.3 x 10 <sup>-4</sup>
Dielectric strength	kV/mm	20
Volume resistivity	ohm.cm	1.0x10E15
Dielectric constant @60 Hz		2.8
Dissipation Factor @60 Hz		0.001

\* Substrate: PPA (Polyphthalamide)

**Specifications**

Typical product data values should not be used as specification. Assistance and specifications are available by contacting Momentive performance materials Technical Service RTV.



**Instructions  
for Use**

**Compatibility**

IVS4312 silicone rubber compound will cure in contact with most clean and dry surfaces. However, certain materials, such as butyl and chlorinated rubber, sulfur-containing materials, amines and certain metal soap-cure RTV silicone rubber compounds can cause cure inhibition. Cure inhibition is characterized by a gummy appearance of the silicone rubber compound at the interface between it and the substrate.

It is recommended that a sample patch test be performed with IVS4312 silicone rubber compound to determine if a barrier coating or other inhibition-preventing measures are necessary before using the material.

**Surface Preparation**

The performance of any polymer system is highly dependent upon surface preparation. In order to maximize the properties of IVS4312 silicone rubber compound and minimize the potential for cure inhibition, all parts should be as clean and dry as possible prior to the application of the silicone rubber compound. Particular attention should be paid to those areas, which will come in direct contact with the IVS4312 during the curing process.

**Bonding**

IVS4312 silicone rubber compound doesn't require a primer to bond to non-silicone surfaces. Thoroughly clean the substrates with a non-oily solvent such as naphtha or methyl ethyl ketone (MEK), and let dry. Then apply freshly catalyzed IVS4312 silicone rubber compound to the clean surface and cure as recommended.

**Mixing**

To hand mix, select a clean mixing container 4-5 times larger than the volume of silicone rubber compound to be used. Weigh out equal amounts of the A & B components. With clean tools, thoroughly mix the A & B components together, scraping the sides and bottom of the container carefully to produce a homogeneous mixture. Care should be taken to minimize the amount of air entrapment.

**Deaeration**

When IVS4312 silicone rubber compound is hand mixed, air entrapped during the mixing process should be removed to eliminate the formation of voids in the cured product. Expose the mixed material to a vacuum of 10-20 mbar. The material will expand, crest, and recede to about the original level as the bubbles break. Deaeration is usually complete about two minutes after frothing ceases.

**Curing**

IVS4312 silicone rubber compound cures very rapidly when exposed to elevated temperatures. In order to avoid linear expansion stepwise cure is recommended (ex. 1<sup>st</sup> cure for 1 hr at 80°C followed by 1 hr at 150°C.)

**Handling and  
Safety**

Material Safety Data Sheets are available upon request from Momentive performance materials. Similar information for solvents and other chemicals used with the Momentive performance materials should be obtained from your supplier. When solvents are used, proper safety precautions must be observed.

**Storage and  
Warranty Period**

The shelf life will be indicated by the "use before date" on the associated documents with a minimum of 3 months when stored in the original unopened containers below 27° C.

**Availability**

IVS4312 A-component and B-component are in 0.5 kg bottles available in cases of 10 bottles.



PRINCIPAL LOCATIONS – Regional Information

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	• RTV Products-Elastomers	T 800.332.3390	F 304.746.1623
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