

RTV Silicone Single Part Adhesive, Silcem R9

Indian Space Research Organisation at its Vikram Sarabhai Space Centre (VSSC) has developed a room temperature curable single part adhesive, SILCEM R9 based on polysiloxane for multipurpose bonding applications. This system contains polysiloxane, fillers and curing components mixed under dehumidified conditions and filled inside squeeze tubes for ready – to - use condition. The adhesive can be squeezed out from the tube and very conveniently applied directly on the substrates and bonded. On exposure to humid air, it hardens by itself to a solid rubbery mass.

Salient Features

- Single part siloxane based system containing fillers and special curing components.
- Room temperature curable on exposure to humid air. Safe inside the tube
- Easy to apply. Simply squeeze and apply
- Supplied in ready-to -use squeeze tubes of 100-150 g capacity
- Meets the aerospace quality standards

Applications

This adhesive finds large societal applications for use as sealants to provide leak proof joints. This material can also be used as a gap filler materials where high temperatures are experienced. Being a water repellent adhesive material, the bonded substrates maintains good strength even under wet conditions. It finds applications as a general purpose adhesive for bonding / sealing materials like wood, metals, leathers, foams etc.

Typical Properties

Density (cured product) g/cc	: 1.25 - 1.35
Tensile strength @RTksc	: 22 - 42
Tensile strength@120°Cksc	: 18 - 35
Elongation@RT%	: 225 - 350
Elongation@120°C%	: 110 - 300
Lap shear strength (Al-Al) @RTksc	: 13 - 30
Lap shear strength(Al-Al) @120°Cksc	: 13 - 28
Thermal conductivity at 100°CW/m.K	: 0.25 - 0.50
Specific heat at 100°C,J/g/°C	: 1.0 - 2.0
Hardness, ShoreA	: 40 - 55