

Silicone RTVs for Low Outgassing Applications

Advanced silicone products that can deliver outstanding performance with minimal outgassing

Since the beginning of time, people have looked up at the stars and longed to explore the world above them. For more than 60 years, Momentive has been part of the journey into space—providing the silicone in the boots of the first astronaut to walk on the moon—in the rockets that propelled those pioneers into orbit—and on every US manned space flight since. Building on the legacy of our past, Momentive continues to develop innovative silicones that help today's aerospace pioneers reach ever greater heights. From launch to landing, Momentive's advanced silicone products enable the next generation of space exploration.

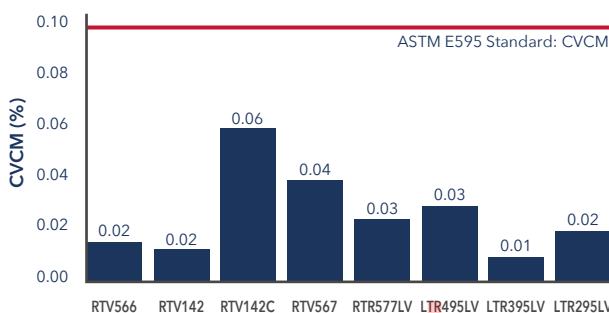
Benefits of Low Outgassing Silicones

- Loss of less than 1% of mass in a vacuum*
- Produces less than 0.1% volatile condensable materials in a vacuum*
- Low outgassing products meet or exceed ASTM E-595 testing standards
- Maintain critical properties for extended time over the wide range of extreme temperatures encountered by spacecraft -130°C (-200°F) to 260°C (500°F)
- Remains flexible in the extreme low temperatures of space
- Excellent thermal insulation
- Very strong adhesion with primer to support structural integrity
- UV and ozone resistance
- Room temperature cure
- Available in paste to flowable viscosities to accommodate a wide range of applications

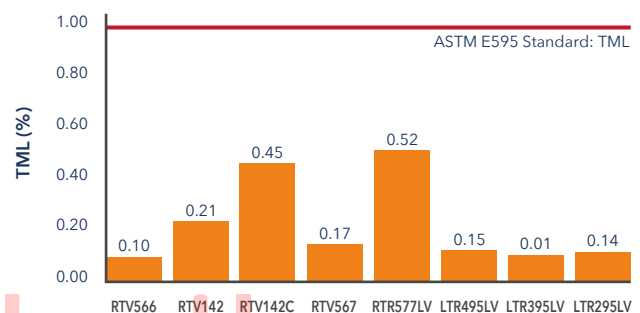
POTENTIAL APPLICATIONS

- Cast in place heat shielding
- Solar array and optical equipment sealing
- Crew capsule applications
- Thermal insulation of sensitive components
- Protective coatings for critical equipment
- Encapsulants & potting for high heat locations
- Interior & exterior adhesives
- Flexible composite coatings

ASTM E595 Results: CVCAM (≤0.10%)



ASTM E595 Results: TML (≤1.00%)



*Low outgas testing performed using ASTM E595 Low Outgas Test Procedures in a vacuum environment. Test results. Actual results may vary.

Momentive offers an expanding line of low outgassing materials for sealing, protective coatings, electronics packaging, thermal interface materials, thermal protection systems and photovoltaic array assembly. The grades listed below meet or exceed ASTM E-595 standard outlined in NASA SP-R-0022A and European Space Agency PSS-014-702.



Momentive Performance Materials: Low Outgassing Product Line

Product	Cure Chemistry	Description	Potential Applications ⁽²⁾	Useful Temp. Range
RTV142 RTV142C	Room Temperature ⁽¹⁾ (Alkoxy)	White and translucent, one-component thixotropic paste, offering primerless adhesion	Adhesive, gasketing, sealing, bonding	-60° to 205°C (-75° to 400°F)
RTV566	Room Temperature ⁽¹⁾ (Alkoxy)	Red, two-component paste with excellent release capabilities and wide temperature performance	Cast-in-place heat shielding, thermal insulation, potting, encapsulating electrical assemblies, PV assembly	-115° to 260°C (-175° to 500°F)
RTV567	Room Temperature ⁽¹⁾ (Alkoxy)	Translucent, two-component flowable adhesive with excellent release properties	Encapsulating electrical assemblies, sealing, flowable	-115° to 205°C (-175° to 400°F)
RTV577LV	Room Temperature ⁽¹⁾ (Alkoxy)	White, two-component thixotropic paste with excellent release capabilities and variable work and cure times through catalyst options	Cast-in-place heat shielding, thermal insulation, potting and encapsulating of electrical assemblies	-115° to 205°C (-175° to 400°F)
LTR295LV	Room Temperature ⁽¹⁾ (Alkoxy)	Gray, one-component, thermally conductive paste	Thermal interface material, gap filling, adhesive with 2W/mK	-40° to 150°C (-40° to 302°F)
LTR395LV	Addition	Gray, one-component, thermally conductive and electrically insulative paste	Thermal interface material, adhesive, gap filling with 3W/mK	-40° to 150°C (-40° to 302°F)
LTR495LV	Addition	Blue, two-component, thermally conductive, flame retardant paste	Thermal interface material, gap filling with 4 W/mK	-40° to 150°C (-40° to 302°F)

(1) Standard cure conditions are 25°C (77°F)/50% RH

(2) List of potential applications is not exhaustive

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