

Silbione® Skin Adhesive Series

October 2017

Description **Silbione® SKIN ADHESIVE SERIES** are two component silicone skin adhesives that crosslink at room temperature by polyaddition reaction. The polymerization can be accelerated by heat.

The silicone materials are delivered as two viscous liquid components, which once mixed and cured, transform into an elastic and resistant gel. Polymerization occurs without the evolution of heat.

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- Applications**
- Adhesive wound dressings & bandages
 - Transdermal patches for cosmetic & active delivery
 - Scar management
 - Medical & fashion tapes

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- Advantages**
- Healthcare grade materials
 - Excellent transparency of mixed components
 - Tuned rheology
 - A broad range of viscosities to optimize processing
 - A wide selection of probe tack values

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- Benefits**
- Soft gentle adhesion for easy painless and non-traumatic removal
 - Glass like coating for improved appearance of final product
 - Responsible

Instructions for use **1. Mixing the two components**

The components A and B are mixed by weight in the above indicated ratio. The mixing can be carried out either by hand or using a low-speed electric or pneumatic mixer to minimize the introduction of air and to avoid any temperature increase.

It is also possible to use a special mixing and dispensing machine for the two silicone components. Further information is available upon request.

2. Degassing

The mixture should be degassed preferably at 30 to 50 mbar to eliminate any entrapped air. If a dispensing machine is used, the two components are degassed separately prior to mixing. The silicone mixture expands to 3 to 4 times of its initial volume and bubbles rise to the surface. The bubbles progressively disappear and the mixture returns to its initial volume after 5 to 10 minutes. Wait a few minutes to complete the degassing and then flash the vacuum. The silicone is ready for pouring, either by gravity or under low pressure.

Note: Flashing the vacuum once or twice accelerates the degassing. It is recommended to use a container with a high diameter/height ratio.

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3. Polymerization

The system polymerizes at 23 °C. The curing may be slowed down at lower temperature and may be accelerated by heat.

Contact with certain materials can inhibit the crosslinking. See list below:

- Natural rubbers vulcanized with sulphur,
- RTV 2 silicone elastomers catalyzed with metal salts, e.g. tin-compounds,
- PVC stabilized with tin salts and additives,
- Epoxy resins catalyzed with amines,
- Certain organic solvents, e.g. ketones, alcohols, ether etc.

It is recommended to test the substrate by applying a small quantity of the mixed silicone on a limited area.

Typical Properties

1. Characteristics of the non-cured product

Silbione® Skin Adhesives										
Properties	RT GEL 4512		RT GEL 4712		RT GEL 4317		RT GEL 4320		RT GEL 4717	
	A	B	A	B	A	B	A	B	A	B
Contains	Pt	SiH	Pt	SiH	Pt	SiH	Pt	SiH	Pt	SiH
Appearance	Low viscous liquid									
Color	Transparent									
Density <i>approx. [g/cm³] at 23 °C</i>	0.98									

2. Polymerization

SILBIONE® Skin Adhesives					
Properties	RT GEL 4512	RT GEL 4712	RT GEL 4317	RT GEL 4320	RT GEL 4717
Mixing Ratio A : B <i>parts by weight</i>	1 : 1				
Working Time <i>approx. [min] at 23 °C</i>	45	45	60	60	30
Mixed Viscosity <i>approx. [mPa·s] at 23 °C</i>	6000	42000	3000	3000	45000

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3. Characteristics of the cured product

Properties	Silbione® Skin Adhesives				
	RT GEL 4512	RT GEL 4712	RT GEL 4317	RT GEL 4320	RT GEL 4717
Penetration ⁽²⁾ approx. [mm/10], hollow cone (62,5 g) DIN ISO 2137	120	120	170	210	170
Probe Tack ⁽³⁾ approx. [mj/cm ²], steel probe, 0,25 mm layer	1.2	3.8	5.2	6.6	9.0

(1) – The typical properties listed within are not intended for use in preparing specifications for any particular application of Elkem Silicones materials. (2) – Approx. [mm/10], hollow cone (62.5g) DIN ISO 2137

(3) – Approx. [mj/cm²], steel probe, 0.25mm layer

Note: User has sole responsibility to determine product suitability for intended uses and applications.

4. Biocompatibility

Properties	Silbione® Skin Adhesives				
	RT GEL 4512	RT GEL 4712	RT GEL 4317	RT GEL 4320	RT GEL 4717
Cytotoxicity	■	□	■	□	□
Skin Irritation	■	□	■	□	□
Skin Sensitization	■	□	■	□	□

All testing conducted on cured skin adhesive products A+B

■ - Indicates test performed on material, successfully passed.

□ - Indicates test not performed on material, however, it is substantially equivalent to another tested Elkem skin adhesive product that successfully passed.

Storage and shelf life

Please consult the packaging for shelf life information on **Silbione® SKIN ADHESIVE SERIES** products.

Safety

Please read the container labels for **Silbione® RT GELS 4317, 4320, 4512, 4712, and 4717** or consult the Safety Data Sheet (SDS) before handling for safe use, physical and health hazard information. The SDS is not included with the product packaging, but can be obtained by contacting Elkem Silicones at 866-474-6342 or consult your Elkem Silicones representative.





Packaging

The **Silbione® SKIN ADHESIVE SERIES** are available in multiple packages. Please check with our team.

Silbione® is a registered Trademark of **Elkem SILICONES**



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