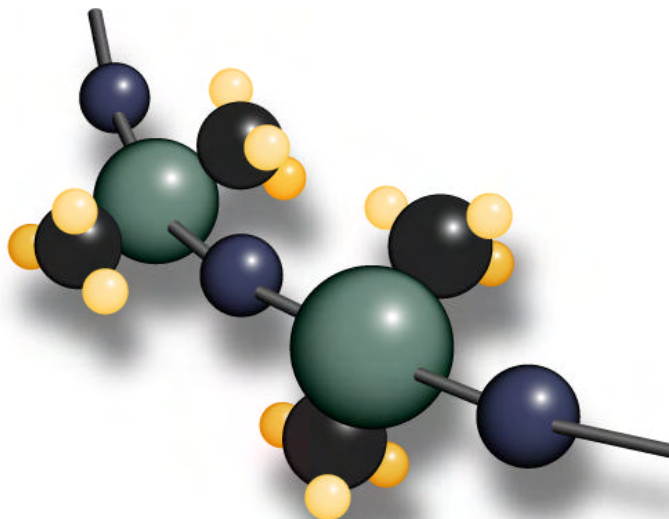


# Polymer Systems Technology Limited

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# Adjustable Cure Silicone Adhesives for Various Assembly Applications



NuSil's R31-2186, R32-2186 and R33-2186 are two-part, adjustable cure, high strength silicone adhesives. This series of

adhesives is designed to allow the engineer to accelerate the cure time with heat to allow more efficient processing times and reduce production costs. R31-2186 and R33-2186 are designed to cure at low temperatures for situations where higher cure temperatures can't be used due to equipment limitations or heat sensitive materials within the assembly. Another advantage of curing at low temperature is avoiding common defects such as bowing, warping and delamination when heating bonded materials with different coefficients of thermal expansion (CTE). R33-2186 is the latest addition with a longer work time (minimum 60 minutes), while still curing at room temperature in 24 hours.

These addition cure silicone adhesives are an excellent alternative to traditional one part, condensation cure adhesives. Some disadvantages of condensation cures, also known as "RTVs," is they require atmospheric moisture to cure. These often contain corrosive by-products and cure time is dictated by the adhesive's exposed surface area and % moisture in the curing environment. The addition cure mechanism does not require moisture to cure, has no curing by-products and minimal shrinkage. The adhesive's cure rate is not limited by exposed surface area and can be cured in thick sections as well

NuSil's Adjustable cure silicone adhesives have high tensile and tear properties while remaining flexible to absorb stress during thermal cycling. They are also electrically insulating and thermally stable, maintaining their mechanical properties from -65°C to 240°C. Their mix ratios are 1:1 (Part A: Part B) and they are available in and easily dispensed from dual cartridge side-by-side kits, which eliminate the need to mix and de-air.

## Substrate Consideration

R31-2186, R32-2186, R33-2186 cure in contact with most materials common to typical assemblies. Exceptions include: sulfur cured organic rubbers, latex, chlorinated rubbers, some RTV silicones and unreacted residues of some curing agents. Some applications may require the use of primer. See [www.NuSil.com](http://www.NuSil.com) for recommendations of primers for challenging substrates.

## About NuSil Technology

NuSil Technology is a cutting edge manufacturer of silicone materials for the pharmaceutical, drug delivery, and medical device industry. NuSil develops custom materials designed to meet specific application needs, regardless of the quantity. ISO-9001 certified since 1994, NuSil operates state-of-the-art laboratories and processing facilities in North America and provides global customer support.



Product	Typical Work Time @ 25°C	Cure Time @ 25°C	*Lap Shear to Unprimed Aluminum psi (MPa)
R31-2186	15 minutes	24 hours	**95
***R31-2186	15 hours	15 min @ 150°C	160
R31-2186	2 hours	24 hours	**125

\*\*\*Cannot cure at room temperature

\*\*Cured 24 hours at 25°C

\*ASTM D1002

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