

Cleaners Remove Silicone Deposits from Industrial Equipment and Surfaces

Case Study: Dow Corning® DS-2025 Silicone Cleaning Solvent and Dow Corning® DS-1000 Aqueous Silicone Cleaner

PROJECT

Demonstrate the removal of cured and uncured silicone from substrates.

PRODUCTS

Dow Corning® DS-2025 Silicone Cleaning Solvent

Dow Corning® DS-1000 Aqueous Silicone Cleaner

Silicones are widely used in various products and in manufacturing processes, and good cleaning practices can help you reduce the risk of microbial or chemical contamination in finished products, reduce the likelihood of buildup-related equipment failures, and contribute to good industrial hygiene and worker safety.

Dow Corning offers two products for the easy removal of silicone deposits on tools, kettles, bottling lines, pipes, manufacturing equipment, floors and other surfaces: *Dow Corning® DS-2025 Silicone Cleaning Solvent* for removing cured silicones and *Dow Corning® DS-1000 Aqueous Silicone Cleaner* for removing uncured silicones.

Using *Dow Corning® DS-2025 Silicone Cleaning Solvent* to remove cured silicone

To demonstrate the cleaning effect of *Dow Corning® DS-2025 Silicone Cleaning Solvent*, a plastic pipe was coated with *Dow Corning® RSN-0749 Resin* – a curable silicone that, on evaporation of the cyclomethicone, forms a cured film of high-molecular-weight silicone resin. The silicone was applied to the outside of the pipe rather than the inside (Figure 1) so the cleaning can be seen more effectively.

The pipe was left to stand in *Dow Corning® DS-2025 Silicone Cleaning Solvent* overnight at room temperature (Figure 2). It was then rinsed with water and dried to yield a clean pipe (Figure 3).

Recommended procedure for using *Dow Corning® DS-2025 Silicone Cleaning Solvent* to remove cured silicone from industrial equipment:

1. Silicone digestion

- Drain tanks and lines from a maximum of residue and water (0.5% maximum).
- Fill tanks and lines with *Dow Corning® DS-2025 Silicone Cleaning Solvent*.
- Ventilation is required. A nitrogen blanket is not required but may be used as an additional safety measure if working at 60°C.
- Recirculate *Dow Corning® DS-2025 Silicone Cleaning Solvent* at room temperature (or up to 60°C) until dissolution of residue is effective. Typically, this takes one to four hours.
- Note that no impact of *Dow Corning® DS-2025 Silicone Cleaning Solvent* on stainless steel 304 and 316 has been detected. Additionally, no impact has been detected on *Teflon®*, *Viton®*, nitrile, polyethylene, polypropylene or EPDM gaskets, seals and joints, as well as ABS and PET. However, *Dow Corning® DS-2025 Silicone Cleaning Solvent* will affect nylon, butyl rubber, polyurethane and silicone gaskets, seals and joints.

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Figure 1



Figure 2



Figure 3



2. Degreasing

- Drain *Dow Corning*[®] DS-2025 Silicone Cleaning Solvent from unit and refill container for next use.
- Start CIP cleaning with 10% *Dow Corning*[®] DS-1000 Aqueous Silicone Cleaner to solubilize and remove solvent residue.

3. Sanitization

- Perform final sanitization according to customer standard practice.

Using *Dow Corning*[®] DS-1000 Aqueous Silicone Cleaner to remove uncured silicone

To demonstrate the cleaning effect of *Dow Corning*[®] DS-1000 Aqueous Silicone Cleaner, some XIAMETER[®] PMX-200 Silicone Fluid, 350 CS – a typical uncured silicone – was poured onto a floor (Figure 4).

The bulk of the spill was cleaned up using paper tissue to leave a residue of silicone on the floor (Figure 5). The floor was then cleaned with a 10% aqueous solution of *Dow Corning*[®] DS-1000 Aqueous Silicone Cleaner to give a clean surface (Figure 6).

Recommended procedure for using *Dow Corning*[®] DS-1000 Aqueous Silicone Cleaner to remove uncured silicone from industrial equipment:

1. Degreasing

- Drain any residues from unit.
- Fill unit with a 10% aqueous solution of *Dow Corning*[®] DS-1000 Aqueous Silicone Cleaner.
- Heat up to 80°C and recirculate using the CIP cleaning procedure to solubilize and remove silicone residues. Recirculate through piping and spray nozzle-ball where relevant.

2. Sanitization

- Drain off *Dow Corning*[®] DS-1000 Aqueous Silicone Cleaner solution.
- Perform final sanitization according to customer standard practice.

Further information

To request samples of *Dow Corning*[®] DS-2025 Silicone Cleaning Solvent or *Dow Corning*[®] DS-1000 Aqueous Silicone Cleaner or to obtain contact information for your local sales/technical representatives or distributor, visit dowcorning.com/SiliconeCleaning.



Photos: Page 1 - AV19391, AV19396, AV19397; Page 2 - AV19389, AV19392, AV19394.

HANDLING PRECAUTIONS

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