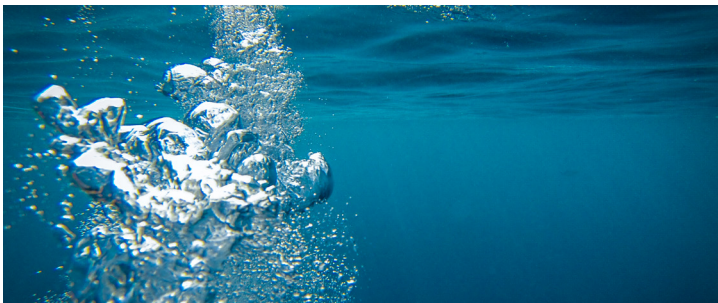




# STARLIM CARBON DIOXID COLD CURING

SCD cleaning is a cleaning process with liquid CO<sub>2</sub>. It is cleaned under pressure, with approx. 50 bar in the liquid subcritical state. The temperature is between 0 and 15°C.

The liquid CO<sub>2</sub> serves as a kind of solvent due to its extremely low surface tension. The result of this process is the extraction of volatile and extractable components from the silicone matrix.



## OPPORTUNITIES OF SCD

- ① **Volatiles & extractables**  
Washing out of non-crosslinked cyclic (D4-D20) and unreacted linear siloxanes. Some of these components are reduced to below the detection limit.
- ② **Process**  
Lead time approx. 30 minutes. SCD removes as many volatiles as 4 hours annealing with 200°C.
- ③ **Material Characteristics**  
Initial properties („as molded“) such as ultimate elongation, hardness and resistance to tear propagation remain unchanged.
- ④ **For sensitive components**
  - Thin-walled components that can be deformed by hot air
  - Multi-component parts can be cleaned
  - Prevents post-curing slit healing
- ⑤ **High wall thickness**  
Even thick-walled components can be cleaned in a appropriate amount of time
- ⑥ **Cleaning directly in the packaging**  
Special packaging for clean room applications

## 2-COMPONENT PART APPLICATION

- **Multi-component parts**  
Cleaning possible for parts made of thermoplastics which can not be post-cured due to high temperature
- **Low tendency to stick during installation**  
Sticking to other components in the application should be prevented
- **Sensors**  
Increased requirement for the proportion of volatile components due to the proximity to sensitive electronic and mechanical sensors
- **Adhesion**  
The different materials stretch differently – delaminations occur



## LIGHT APPLICATION



- **Dimensional stability**  
Tempering not possible due to the geometry
- **Fogging**  
The application requires a low volatile content to prevent fogging of secondary optics
- **Post-polymerization/gluing**  
Optically polished surface might „stick together“ due to the high tempering temperatures

## VALVES APPLICATION

- **Streamlined migration**  
Migration limits can also be complied without changing the material
- **Post-polymerization/Gluing**  
Post-polymerization of the cut surfaces can be largely avoided by means of SCD cleaning (due to the significantly reduced proportion of non-crosslinked parts)
- In addition, slit healing can be reduced during radiation sterilization.



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