

## Sterilization of All-Silicone Rubber Cap Mats – Tech Information

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All-silicone rubber cap mats are widely used in laboratory workflows involving microplates, U-2D™ micro-sample inserts, and other small-volume sample management systems. Because these environments demand strict contamination control, it is important to understand how these cap mats tolerate sterilization and whether repeated cycles affect their performance.

### Autoclave Compatibility

All-silicone rubber cap mats are fully autoclavable under standard laboratory steam-sterilization conditions. They can be safely sterilized at:

- **121 °C**
- **15–30 minutes**
- **16–17 psi (1.1–1.2 bar)**

These parameters correspond to the globally accepted sterilization cycle used for microbiological decontamination and general laboratory sterilization of heat-stable materials.

### Material Stability During Sterilization

Silicone rubber is inherently stable under moist heat conditions, allowing these cap mats to:

- Maintain flexibility and elasticity
- Preserve sealing performance
- Resist deformation or cracking
- Endure repeated autoclave cycles without loss of function

Because silicone does not contain fillers or layers that degrade with steam exposure, the mats remain reliable even with routine sterilization.

### Recommended Use in Sterile Workflows

These features make all-silicone cap mats ideal for:

- Microbiology workflows
- LC/LCMS/GC sample prep environments
- High-throughput screening
- U-2D™ micro-sample storage
- Any application requiring minimized contamination risk

Their ability to withstand repeated sterilization cycles supports both aseptic technique and cost-effective reusability.

Click [HERE](#) for Silicone rubber sealing mat ordering information and pictures.

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