

LIQUID SILICONE RUBBER (LSR)

PLIABLE, DURABLE PARTS IN HIGH VOLUME



MEDICAL • OPTICAL • ELECTRICAL • CONSUMER • AUTOMOTIVE

Liquid Silicone Rubber (LSR) is a high purity platinum-cured silicone with reliable stability that is capable of resisting extreme temperatures and many chemicals. The injection molding of LSR uses a thermoset process of two A & B components mixed together in a 1:1 ratio that is injected in a cold state into a heated mold. The heat accelerates the cross-linking and curing of the mixed A & B components into a solid state.

1

In a cooled process, the A & B liquid resins are combined using a static mixer and fed into a cooled injection barrel. A zero compression screw measures to the proper shot volume. A high precision of pressure and position is critical.

2

The mixed A & B components in liquid form are injected into the mold via runner or cold runner (cold deck) system. Precise injection velocity and pressure control are required to prevent overfilling (flash).

3

Heated mold (300-425F) via electric cartridges, controlled by the Roboshot, cures the injection LSR material into a solid form.

4

Typical cycle time can be from seconds to minutes depending on curing rates and thickness.

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EXCEPTIONAL FEATURES MILACRON ADVANCED LSR SYSTEM

• Vacuum pump configurations

- Standard vacuum sequencing and pump included
- Available vacuum switch interfaced with the control as part of mold file

• Mold heater control

- Available in 4, 12, 16 or 24-zone configuration as machine-mounted and interfaced to the Roboshot controller and saved with mold file
- OPC-UA communication on 16- & 24-zone units
- Configurable as J- or K-type thermocouple

• Flexible eject / core sequences

- 3-stage independent air eject is standard
- Multiple advanced eject sequences for part removal
- Standard core interface software with customized sequencing
- Optional pneumatic core valves

• Standard valve gate sequence

- Standard 8-valve gate sequencing interface
- Optional additional 8-valve (total 16)
- Pneumatic valves available with filter and regulator

• Standard clamp tonnage and sequencing

- Low-tonnage auto-set with in-cycle adjustment
- Minimum tonnage set for improved venting
- Standard pre-injection (venting) sequence



• CLAMP DESIGN

- Extended tie bar allows for larger mold stack height
- Rigid platen designs for minimized deflection and flash
- Precision control for venting
- Vacuum pump and sequence included

• LSR NOZZLE

- Designed for repeatability and reliability
- LSR pneumatic shut-off nozzle included
- Internal needle operation for higher precision
- Radius or diving tip nozzle designs available

• INJECTION DESIGN

- Bolt-on static mixer adapter to barrel
- Easy, clean-out and low maintenance
- Slide-on, removable water jackets
- Advanced sealing system for leak-free operation
- Capable of switching between LSR and thermoplastic

• ADVANCED SCREW TIP DESIGN

- High performance screw tip design
- Quick shut-off for high precise shot control
- Advanced sealing area and tolerances for reduced slippage
- Roboshot backflow monitor detects flow slippage

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