

Stitching Applications

Stitching Applications with Tip-Seal® Dispense Valves



2600-001 3/8" NPT
Tip-Seal Valve with
0.189 or 0.250" Orifice

Three popular dispense valves used
in stitching operations are shown
here for comparison



2200-245-099 1/4"
NPT Tip-Seal Valve
with 0.180 Orifice



2200-245-051 1/4"
NPT Tip-Seal Valve
with 0.125 Orifice

- ▶ **Stitching systems normally use a high quality, long-life Tip-Seal® dispense valve to ensure fast and repeatable on-off cycling of the valve for repeatable dispense volumes.**
- ▶ **Meter Systems can be Positive Rod Displacement or Regulated Pressure**
- ▶ **While it may take a longer cycle time to perform a stitching operation, the capital equipment cost is lower and the maintenance cost is typically lower.**
- ▶ **Articulating robots are regularly used to move the Tip-Seal dispense valve at high speeds along the part to receive the stitched beads of material.**

Stitching Systems and Valves for Adhesive, Sealant and Mastic Materials

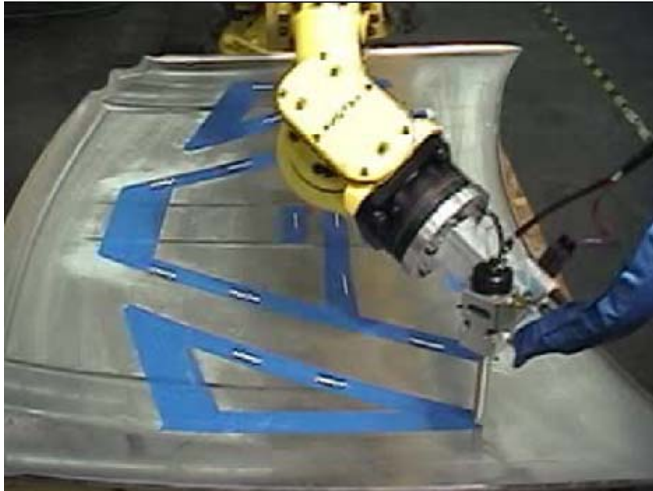
Stitching is frequently performed where many small volumes of material are required using a minimum number of dispense valves

Stitching systems are typically used in place of a "hershey-drop" or "daub" fixture having one dispense valve for each volume of material dispensed.

Typical Applications

- Anti-Flutter Mastic
- Seam Sealing
- Skipping critical areas
- PVC Sealer
- Heat Cure Epoxy
- Silicone
- Urethane

Stitched Bead Dispensing Systems



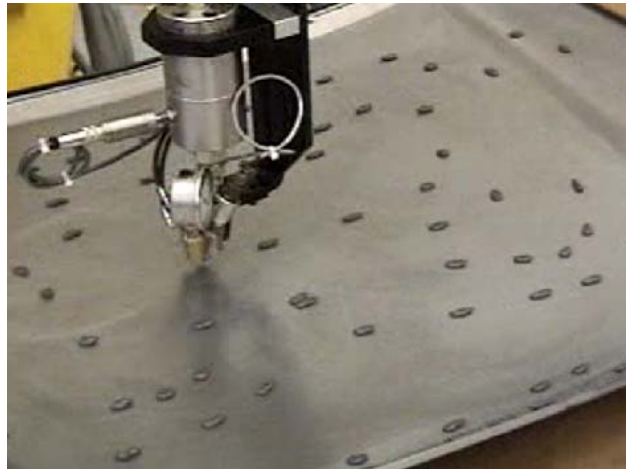
Low Speed Stitched Beads are normally applied by a robot with tip speeds in the range of 300 to 500 mm per second; the hem flange adhesive is applied separately.

Low Speed Stitched Bead Process:

- 22 stitched beads are applied in 17 seconds at ± 300 mm/sec tip speed.
- System Components: Program-A-Bead 3 Meter System and Tip-Seal Dispense Valve
- Bead Profile: 5 mm dia. x 50 mm long
- Material: Anti-Flutter Heat Cure Expandable Mastic
- Low Speed Process applied onto hood inner surface at ± 300 mm per second by a 6-axis articulating robot.

High Speed Stitched Bead Process:

- 84 stitched beads are applied in 21 seconds at ± 600 mm/sec tip speed.
- System Components: Regulated Pressure Meter System and Tip-Seal Dispense Valve
- Bead Profile: 8 mm dia. x 25 mm long
- Material: Anti-Flutter Heat Cure Expandable Mastic
- High Speed Process applied onto hood inner surface at ± 600 mm per second by a 6-axis articulating robot.



High Speed Stitched Beads are applied by a robot with speeds in the range of 500 to 1000 mm per second; a hem adhesive valve can be mounted on the same tool.



Manufacturers of Precision Dispense Systems & Valves

45677 Helm Street • P.O. Box 701460
Plymouth, MI 48170 • USA
Phone: (734) 459-8600 Fax: (734) 459-8686
Web: www.SealantEquipment.com
E-mail: sales@SealantEquipment.com