MT-CL 720 RollerClean — Roller Applicator Purging & Maintenance Guide

This step-by-step user guide is specifically engineered for machine operators to ensure safe, effective, and standardized purging of reactive PUR hot melt adhesives from roller coaters equipped with silicone rubber, Viton, or elastomer sleeves using MT-CL 720 RollerClean.

100 – 120 °C Processing Temp (Max 120°C)	**55 ± 2 °C** Softening / Melting Point	**15 – 20 Min** Average Purging Cycle Time	**Silicone & Viton** 100% Roller Sleeve Safe

CRITICAL GOLDEN RULE: MAXIMUM OPERATING TEMPERATURE IS STRICTLY 120 °C!

To prevent irreversible thermal degradation, blistering, or swelling of sensitive silicone rubber and Viton roller sleeves, the application unit temperature must strictly be reduced to maximum 120 °C (ideally 100–110 °C) before loading MT-CL 720. Temperatures exceeding 120 °C will permanently damage roller sleeves.

STEP-BY-STEP OPERATOR FLUSHING WORKFLOW (6 PHASES)

1

STEP 1: EXTRUDE & DRAIN RESIDUAL PUR ADHESIVE COMPLETELY

Run the roller applicator machine and extrude all remaining reactive PUR hot melt adhesive from the trough and roller nip until the reservoir is completely empty. Scrape excess bulk adhesive out.

Important: Never load cleaning powder while bulk PUR adhesive is still in the trough.

2

STEP 2: REDUCE TEMPERATURE TO 100 – 120 °C WINDOW

Immediately adjust roller and trough temperature setpoints from typical PUR operating range (130–150 °C) down to 100 – 110 °C (maximum 120 °C). Wait until the digital display confirms this target.

Warning: NEVER load powder while temperature is above 120 °C! You will burn the roller sleeve.

3

STEP 3: LOAD MT-CL 720 ROLLER CLEAN POWDER & MELT

Scatter the required quantity of white MT-CL 720 powder evenly across the roller trough and nip area. The product begins softening at ~55 °C and liquefies smoothly into a fluid purging medium at 100–120 °C.

Dosage: Add sufficient powder to form a working bath along the roller length (~1 – 2 kg).

4

STEP 4: SLOW-SPEED ROTATION & PASSIVATION CYCLE (5 – 10 MIN)

Once molten, run applicator rollers at low speed (5–10 rpm) for 5 to 10 minutes. The liquid passivates free isocyanate (NCO) groups, prevents gelation, and dissolves adhesive build-ups on doctor blades and roller sleeves.

5

STEP 5: RUN PURGING AGENT THROUGH & EVACUATE COMPLETELY

Allow the entire volume of contaminated purging fluid to pass through the machine and drain completely into a disposal pan. If the discharged fluid is heavily discolored or contains thick chunks, repeat once with fresh powder.

6

STEP 6: SCRAPE TROUGH CLEAN & RESUME PRODUCTION WITH PUR

Scrape remaining liquid residues from trough bottom using a soft teflon scraper. Ensure the unit is completely empty of cleaner. Then raise temperature back to normal PUR settings and reload fresh PUR hot melt.

Ready: Machine is now 100% clean, passivated, and ready for high-strength bonding.

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WHEN TO APPLY? — OPERATIONAL TIMING & MAINTENANCE PROTOCOL

Operating Scenario	Operator Action & Protocol	Technical Benefit Achieved
Daily Shift Shutdown	Drain PUR, run 1 purge cycle with MT-CL 720, drain clean and shut off.	Prevents overnight moisture curing and encrustation on roller nip.
Weekend / Extended Downtime	Perform deep flush; scrape trough clean; leave machine dry and cool.	Zero hard PUR buildup on Monday morning; avoids manual scraping.
Adhesive Grade / Color Change	Drain old PUR, circulate MT-CL 720 for 10 min, drain completely.	Eliminates cross-contamination and color streaking in fresh adhesive.
Unscheduled Line Breakdown	Drop temperature to 110 °C immediately and add MT-CL 720.	Passivates isocyanate reaction, saving roller sleeves from seizing up.

OPERATOR CHECKLIST: CRITICAL DOs AND ABSOLUTE DONTs

MANDATORY PROCEDURES (DOs)

- Verify that temperature has dropped below 120 °C (ideally 100–110 °C) before loading powder.
- Use ONLY soft teflon, silicone, or rubber scrapers on roller sleeves and doctor blades.
- Drain the purging liquid completely; ensure no cleaner pools remain before reloading PUR.
- Always execute a purging run prior to weekend or holiday production shutdowns.
- Wear EN 407 certified thermal gloves and EN 166 safety glasses during the cleaning run.

ABSOLUTE PROHIBITIONS (DONTs)

- NEVER load cleaning powder above 120 °C; you will permanently burn silicone/Viton sleeves!
- NEVER use razor blades, steel spatulas, wire brushes, or sandpaper on roller sleeves!
- NEVER leave molten cleaner inside the trough to solidify overnight while shut off.
- NEVER load fresh PUR adhesive over residual cleaner; this destroys bond strength!
- NEVER mix solvents, thinners, or water into MT-CL 720 powder or molten bath.

TROUBLESHOOTING & FAST OPERATOR INTERVENTION

Observed Symptom	Probable Root Cause	Immediate Operator Action
Powder does not melt quickly	Temperature below 100 °C	Check heating zones; adjust temperature to 110–120 °C.
Fumes or rubber burning odor	Temperature exceeded 120 °C	Immediately lower heaters to 105–110 °C. Do not overheat!
Fresh PUR exhibits weak adhesion	Cleaner residual left in trough	Drain unit completely; wipe trough dry with lint-free cloth.
Hard adhesive spots on roller	Pre-existing cured PUR deposits	Extend circulation to 15 min; perform a second run with fresh powder.

OCCUPATIONAL HEALTH, SAFETY & PPE OPERATING GUIDELINES

- Thermal Protective Gloves (EN 407): Wear gauntlet-style heat-resistant gloves when handling molten purging fluid (100–120 °C).
- Eye & Face Protection (EN 166): Wear safety goggles with side shields to protect against potential liquid splatters from rotating rollers.
- Eco & Waste Disposal: Solidified discharged flushing cleaner is a non-hazardous solid polymer waste (EWC 08 04 10). Dispose per local regulations.

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Notice: Do not exceed max. 120 °C to protect silicone & Viton sleeves!