

RUMSIL 576 Emulsion



Water-Based PU Mold Release Agent

COMPOSITION

High-solids aqueous polysiloxane emulsion

TYPICAL PROPERTIES

Property	Unit	Typical Result
Appearance	—	White emulsion
pH (1% aqueous dispersion)	—	6–8
Ionic character	—	Non-ionic
Recommended diluent	—	Cold water
Solids content	%	Approx. 22.5
Density at 25°C (77°F)	g/mL	Approx. 1.0

Features and Benefits

RUMSIL 576 is a water-based mold release agent suitable for self-skinning polyurethane, automotive headliners and various hot-pressed molded components.

It provides reliable release performance for complex-shaped parts and helps prevent tearing and visible residue. In self-skinning polyurethane applications, it promotes the formation of a dense, smooth and uniform surface skin. When used in the hot-press lamination of automotive headliners, it provides good heat resistance with minimal transfer and helps prevent contamination of the facing material.

Its water-based, non-flammable formulation helps reduce mold buildup and improve continuous production efficiency.

Applications

RUMSIL 576 can be used as a mold release agent for cellular polyurethane molded parts and related applications, including:

- Self-skinning polyurethane components
- Polyurethane shoe soles
- Automotive bumpers
- Automotive headliners
- Vibration-damping pads
- Instrument panels
- Furniture components
- Other polyurethane and hot-pressed molded products

RUMSIL 576 provides efficient and stable performance across a wide range of applications.

Directions for Use

Product Dilution

- Dilute the concentrated product with water at an appropriate ratio and mix thoroughly until a uniform, lump-free dispersion is obtained.
- The optimum dilution ratio should be determined according to the production process and required release performance. Begin with a relatively high product concentration and gradually increase the amount of dilution water until the desired balance between release performance and product consumption is achieved.

Preliminary Dilution Test

- Apply the diluted product to an edge area or a small test mold first. Proceed with full-scale production only after satisfactory release performance and surface quality have been confirmed.

Mold Cleaning

- Thoroughly clean the mold surface to remove oil, dust and other contaminants.
- The mold may be preheated before application. The appropriate preheating temperature will depend on the actual operating conditions and the materials being processed.

Application

- Apply RUMSIL 576 uniformly with a spray gun, automated spraying system or brush. Ensure complete coverage of the mold surface while avoiding excessive localized buildup.
- When using a spray gun or automated spraying system, adjust the air pressure to achieve suitable atomization. The spray should reach all areas and corners of the mold while promoting even drying.

Drying and Film Formation

- After spraying or brushing, use clean compressed air—preferably warm industrial air—to remove the water. Gently wipe the mold with a clean cotton cloth to distribute the release agent evenly and form a uniform release film.
- Alternatively, allow the coated mold to stand until the water has completely evaporated. The required drying time will depend on the mold temperature, application rate and operating conditions. After drying, gently wipe the mold with a clean cotton cloth if necessary to improve film uniformity.
- For the first molding cycle, a slightly higher application amount may be required to ensure satisfactory release.

Demolding and Subsequent Treatment

- Proceed with the applicable injection molding, casting, hot-pressing or other production process.
- After demolding, inspect and clean the mold as required. If reapplication is necessary, repeat the application and drying procedure described above.

Precautions

Personal Protection

- Wear suitable protective gloves, safety goggles and a protective mask during handling and application.
- Avoid direct contact with the skin and eyes.
- Maintain adequate ventilation in the work area.
- Keep the product away from open flames, excessive heat and incompatible substances, including oxidizing agents, strong acids and strong alkalis.
- Refer to the product Safety Data Sheet (SDS) for detailed handling and safety information.

Mold Management

- When using a water-based release agent, maintain an appropriate mold temperature to promote rapid evaporation of water.
- The mold temperature must remain within the limits permitted by the molding material, mold design and production process.
- If a mold will remain unused for an extended period, clean any accumulated residue from its surface before storage.

General Use

- Do not mix RUMSIL 576 with other types or brands of release agents, as incompatibility may cause instability or loss of performance.
- Mix the product thoroughly before use.
- Stir the product periodically during use to maintain a uniform dispersion.
- Do not use the product while visibly separated. Mix thoroughly until uniform before application.
- Conduct compatibility testing before use on parts that will undergo bonding, coating, printing or other secondary processing.

Packaging and Storage

RUMSIL 576 is available in:

- 50 kg plastic drums
- 120 kg plastic drums
- 200 kg plastic drums

Store the product in a tightly closed container in a cool, dry and well-ventilated indoor area. Do not store outdoors, and protect the product from direct sunlight.

Protect from freezing, as freezing may cause irreversible deterioration. Before use, allow the product temperature to reach at least 15°C (59°F), and mix thoroughly.

Keep away from heat sources, ignition sources, acids, alkalis and other incompatible materials. Avoid storage at temperatures above 40°C (104°F) or below –10°C (14°F).

When stored in the original unopened container at room temperature under the recommended conditions, the product has a shelf life of six months.

RUMSIL 576 is classified as a non-dangerous product for transport. Transportation should comply with all applicable road, sea and local regulatory requirements.