

SpeedMask®

Common Removal Methods

SpeedMask® temporary maskants offer excellent surface protection against aggressive finishing processes. After processing is finished, maskants can be removed, leaving a residue-free surface.

When deciding on the best removal process for an application, many variables including product, substrate and surface finish, maskant thickness, geometry of parts, and ability to expose to heat, cold, chemical, or water should be taken into consideration.

Below are some commonly used removal methods for SpeedMask maskants.

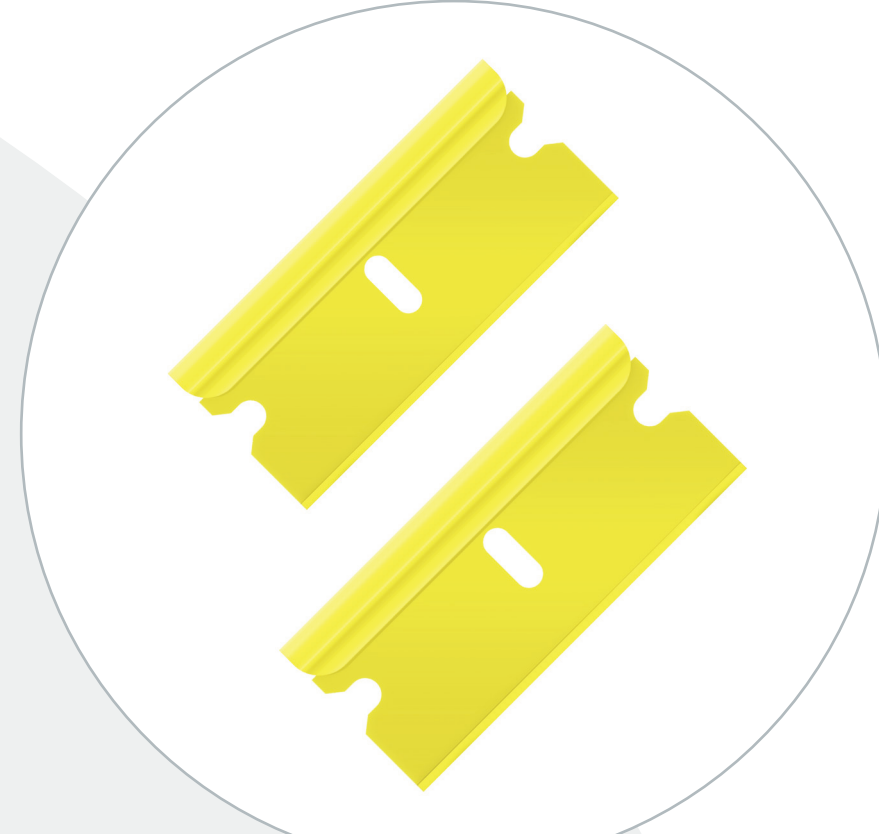
Manual Removal

Hand/Tool Manual Peel: Plastic razors, plastic dental picks, and metal picks are effective tools for manual removal/ scraping of the mask.

Tab Removal Method: A tab is created out of maskant or another flexible plastic and used to peel the maskant.

Embrittlement with Cold: Some maskants can be made brittle with exposure to cold temperatures. This may be achieved by dipping the part in liquid nitrogen, wrapping it in dry ice, or bringing its temperature below -60°C (-76°F) in a deep freezer.

Heat Aided Removal: Maskants can be heated to a temperature above the glass transition temperature (T_g) or to about ~150°C (300°F) to soften. Utilizing a heat gun is a more localized approach compared to heating an entire part in an oven or on hot plate.



Semi-Automatic Removal

Dry Ice Blasting: Dry ice is accelerated in a pressurized air stream and directed at the masked surface. This causes a thermal shock on the surface, causing shear stresses in micro-layers of the maskant.

UltraSonic Removal: A process that uses ultrasound to agitate a fluid. This is sometimes done with just water, but often a solvent or additive is added depending on the cleaning objective.

Chemical Removal: Exposure to aggressive solvents/ chemicals will help weaken the bond strength of SpeedMask maskants. Since most Dymax maskants are formulated to have chemical resistance, chemical soaking will typically not dissolve the maskant 100% and some mechanical removal, scraping, or a post-soak wash may still be required.

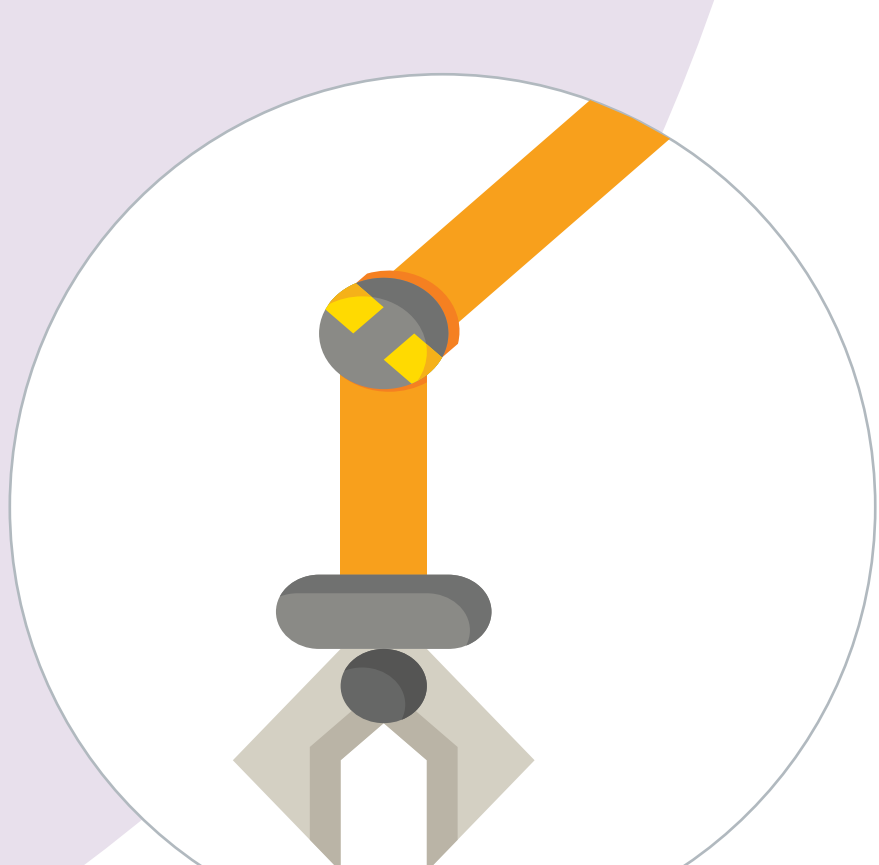


Automatic Removal

Water Jet: Uses high pressure water to remove the maskant. The water jet nozzle's diameter and shape (cone vs stream) can be changed, as well as the pressure, to better fit the application.

Incineration/Furnace Burn Off: When incinerated at appropriate temperatures/cycle times, SpeedMask resins that are comprised of 100% organic maskant will combust and reduce to ash. Remaining ash can be blown off the surface with shop air.

Automated Grippers: This method uses pneumatic clamps on an XYZ table to grab the masked area and pull in Z or X/Y direction to peel off.



Dymax manufactures innovative rapid and light-curable materials, dispensing equipment, as well as UV LED and broad-spectrum light-curing systems. We focus on developing solutions that provide design engineers with tools to dramatically improve manufacturing efficiencies with reduced environmental impact.

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