SpeedMask®

FAST AND COST EFFICIENT **MASKING PROCESS?**
THIS IS HOW IT'S DONE…

www.speedmask.eu

DYMAX®

What is *SpeedMask*® ?

SpeedMask® is an efficient masking solution from Dymax. It cures in a matter of seconds through the exposure of UV light and offers enormous possible savings for production processes. The temporary masking resins ***SpeedMask***® provide excellent protection for surface treatments compared to tapes, waxes and lacquers. ***SpeedMask***® can be easily applied by syringe or through dispensing, spraying, or jetting. Depending on the product, the mask can be removed by burn-off or peel-off. ***SpeedMask***® reliably protects surfaces and cavities during the whole customer surface treatment process in several industries such as aerospace, power generation, metal finishing and medical engineering.

On the one hand, *SpeedMask*® offers reliable protection for surfaces and cavities during surface treatment processes. On the other hand, it provides remarkable potential savings for production processes.

How does *SpeedMask*® work?

With the help of the temporary mask ***SpeedMask***® by Dymax, the use of widespread materials such as tapes, lacquers or waxes become unnecessary for masking jobs. In selected industries, this 1-component material is already in use and masks fast, precisely and cost efficient. This high reproducible masking process already provides suitable process reliability in industries including aerospace, electronics, power generation, metal finishing, and the manufacturing of orthopedic implants and medical devices.

SpeedMask® is suited as a reliable protection for numerous surface processes. The mask is independent from geometry and robotic applicable if needed. Besides planar or curved components, complex geometries can also be masked easily and fast.

Even holes and voids can be masked with ***SpeedMask***®. The cured mask protects from infiltration and allows great edge sharpness. The mask can be easily adapted in the case of design changes.

SpeedMask® is dimensionally stable and therefore does not run, maintaining coverage on both vertical or horizontal surfaces.

Why *SpeedMask*® ?

- Single layer application
- Cure on-demand
- Easily mask complex and intricate shapes
- Easy to remove
- Higher throughput
- Reliable protection
- Automated application if needed

SpeedMask® protects against?

- Thermal Spraying
- Anodizing
- Grit Blasting
- Airflow Testing
- Vibratory Finishing
- Shot Peening
- Acid stripping
- Machining
- Plating

How to save money with *SpeedMask*® ?

The price of a masking material is not the only consideration of overall costs per component part. The graphic on the right illustrates the possible savings with ***SpeedMask***® versus a manual taping process. Material and investment costs may be higher than with tape, but the overall costs demonstrate a process savings via:

- Minimisation of scrap
- No refinishing of the component parts
- Immediate further processing is possible

Examples of use showed that with ***SpeedMask***®, time saving of over 50 percent can be achieved during the masking process compared to other masking methods.

Further information: ***speedmask.eu***

	Tape	*SpeedMask*®
Material costs per part	15,00 $	33,00 $
Labor costs per part	30,00 $	02,00 $
Removal	10,00 $	10,00 $
Cleaning	3,50 $	/
Rework	10,00 $	/
Waste	2,50 $	/
Amortization	/	00,08 $
Costs per part	71,00 $	45,08 $

Customer example, aviation industry, 2.000 component parts/month
Masking for Grit Blasting, followed by Air Plasma Spray.

The four stages of *SpeedMask*®: Applying, Curing, Processing, Removing

The temporary light curable masking resins by Dymax provide reliable protection for various surface treatments. They range between thermal spraying, wet-chemical processes and polishing.

How does the masking process with *SpeedMask*® work?

1 APPLYING

SpeedMask® can be easily applied and provides numerous masking possibilities - even for complex components. The dimensionally stable characteristics make the masking of cavities or holes and the application on horizontal or vertical surfaces a lot easier.

The mask can be applied easily and speedily by:

- Dispensing
- Spraying
- Jetting

These procedures can be either manual or automated.

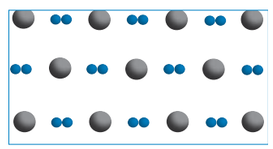
2 CURING

The curing process starts when ***SpeedMask***® is exposed to an UV light source, which is perfectly matched to the product. In this case, the dimensionally stable gel changes into a polymer within seconds. Already after applying a single-layer, this cured mask serves as a reliable temporary protection for the upcoming processing steps. An advantage of UV light curing is “cure on-demand“ with no need for additional heat or air drying.

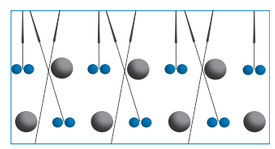
Three different systems are available for curing:

- Spot Lamps
- Flood Lamps
- Conveyors

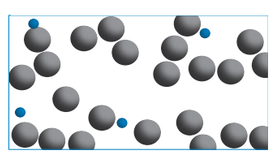
Either single or in combination, they enable an ideal curing for various component sizes and geometries. The UV curing stage can be stand alone or part of an automated line.



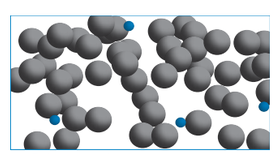
1. Liquid „Unreacted“ state



2. Photoinitiators generate free radicals



3. Polymer propagation



4. Polymer termination

3 PROCESSING

After the curing process is completed, the customer-specific surface processing can be started. Typical processes include:

Chemical Processes

- Anodizing
- Plating
- Acid Stripping
- Chemical Milling/Etching

Manufacturing Aid Processes

- Airflow Testing
- Machining

Production Processes

- Handling Protection

Coatings Processes

- Thermal Spraying

Media Finishing Processes

- Grit Blasting
- Shot Peening
- Vibratory Finishing

4 REMOVING

Immediately after the surface processing is finished, the temporary mask can be removed. There are a couple of ways to accomplish that:

Peel-off

The mask can be removed manually after the process of the component part is completed. The peeling of the mask can be facilitated by slight heating, short soak in a warm water bath (ideally 65-80°C) or an ultrasonic bath.

Burn-off

This method is used for component parts not sensitive to heat. The mask is burned off in a furnace at temperatures up to 600° Celsius.

Our technical service team is happy to discuss your specific applications further with you to determine the best solution with you.

Good connections with Dymax

Dymax is a world-leading manufacturer of light curing materials, curing systems and dosing technologies. For over 30 years, the company has been providing cost saving solutions for their customers. Dymax develops innovative solutions for challenging applications, particularly in the fields of:

- **Aerospace**
- **Appliance**
- **Automotive**
- **Display**
- **Electronics**
- **Glass**
- **Industrial**

- **Medical Device**
- **Metal Finishing**
- **Optical**
- **Orthopedic**
- **Packaging**
- **Plastics**
- **Speakers**

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