hoenle

MASKING WITH
UV CURABLE COATINGS



Reliable surface protection.
Apply and cure in seconds.
Leaves no residue after removal.

www.hoenle.com

SURFACE PROTECTION **WITH PRECISION**

High-value components in metal finishing, aerospace, and medical device manufacturing often need selective surface protection during blasting, peening, stripping, plating, anodizing, coating or other surface treatments. These selected surfaces, edges or cavities must remain untouched by the process. Hoenle UV-curable masking materials create a temporary barrier precisely where protection is required. Applied as thixotrophic liquids or gels, they conform precisely to complex component geometries and cure within seconds under UV light. After processing, the mask can be removed using a method best suited to the specific application.



WHY CONSIDER **UV MASKING?**

PRECISION

Unlike tape, which has to be cut and fitted, liquid UV mask flows into complex contours, edges, and cavities for exact, gap-free coverage.

SPEED

A single application cures within seconds under a suitable UV light source, saving labor time and cost compared to conventional masking methods.

CLEAN REMOVAL

Cured UV masks come off cleanly, without the adhesive residue of tape or the solvent cleaning that wax requires. Parts are ready for the next process step without extra rework.

REPEATABILITY

Controlled application and fast, defined curing deliver consistent results from part to part, where manual taping or waxing depends on the operator. This can help reduce variation, rework, and scrap, and makes masking a stable, predictable step in your production line.

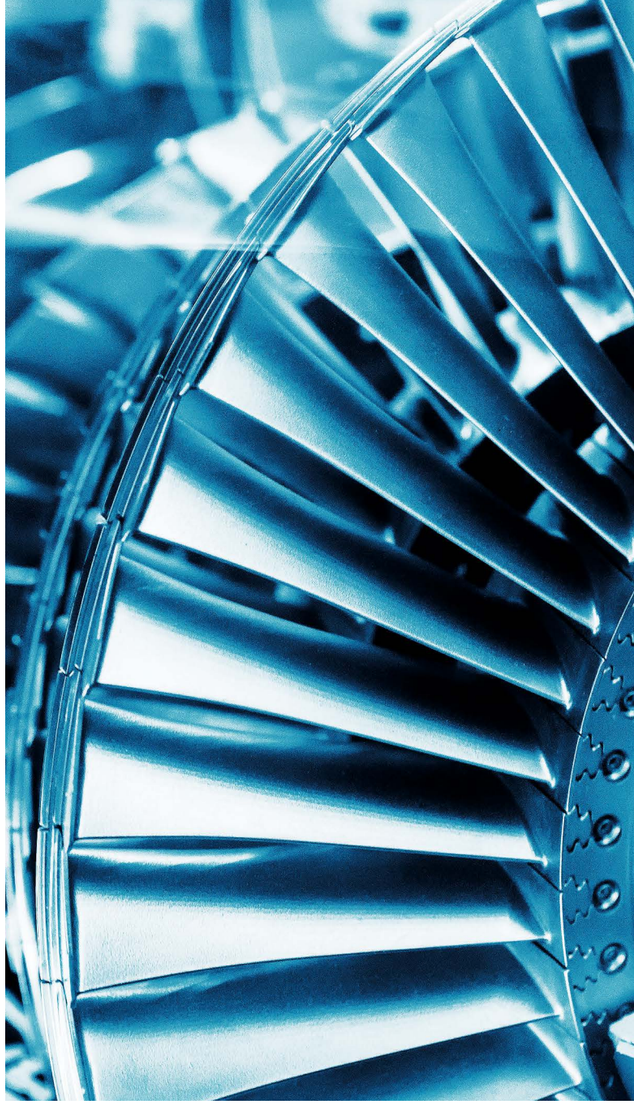
KEY **INDUSTRIES**

TURBINE & AEROSPACE COMPONENTS

UV-curable masking materials protect turbine and aerospace components during aggressive processes such as acid stripping, grinding, shot peening, plating, airflow testing and thermal coating. They combine strong adhesion and high process resistance with efficient, residue-free removal, from simple peeling to clean incineration for highly demanding applications. Ideal for turbine blades, vanes, stators and other critical components where precision, consistency and process efficiency are essential.

POWER GENERATION COMPONENTS AND ASSEMBLIES

Turbine components for generating electrical power are comparable to those used in aircraft engines. They are made from the same materials and possess similar configurations. Consequently, they typically incorporate the same surface processing operations during manufacturing and repair. Hoenle UV Masks can provide the same benefits of speed and improved quality in this industry segment as they do in Aerospace.

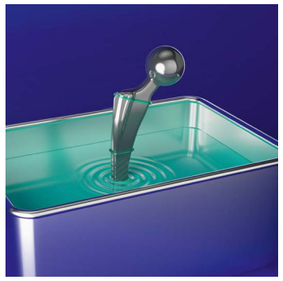




ORTHOPEDIC DEVICES

Orthopedic implants — hips, knees, bone plates, spinal hardware — combine highly polished and rough surfaces that must be masked edge-to-edge without failure. Hoenle's UV masks resist high-velocity blasting media without edge lift, cure in seconds for continuous production, and peel away residue-free after a brief hot-water dip. Formulations are biocompatible and CMR-free, certified to ISO 10993-5 — a requirement most alternative masking methods can't meet.

FROM LIQUID TO **PROTECTION IN SECONDS**



1 APPLY

Apply the UV mask quickly and precisely to the areas that need protection. Multiple viscosities allow dispensing by dip, spray, syringe, or automated system, so the method matches the part geometry and production volume.

- Dipping
- Spraying
- Jetting
- Dispensing



2 CURE

All Hoenle UV masking materials can be cured with Hoenle LED or broad spectrum UV curing systems. The mask hardens in seconds into a tough, flexible barrier — fast enough to run in line with existing production instead of as a separate offline step.

- LED-UV or UV cure
- Within seconds
- Flexible lamp positioning
- In-line ready



3 PROCESS

The cured mask resists abrasive media, hot chemical baths, and high-temperature spray processes, protecting only the surfaces that need to stay untouched.

- Blasting & Peening
- Acid Stripping, Plating & Anodizing
- TBC Coating
- Painting & Powder Coating



4 REMOVE

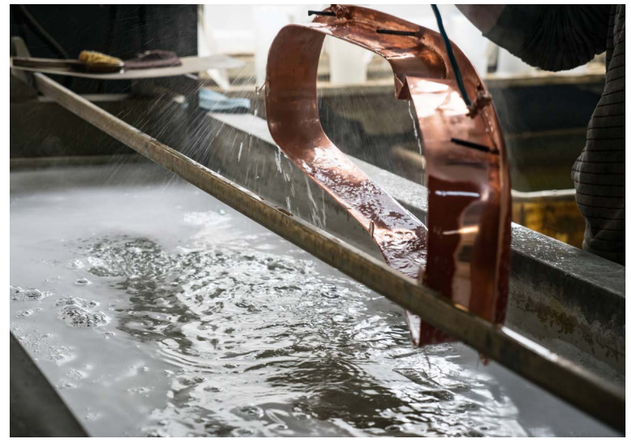
Remove the temporary mask using the method matched to material and process. Most masks peel off at room temperature or after a brief hot-water dip; high-adhesion masks for turbine and engine components are often incinerated at 900–1200°F, within an existing heat-treatment step.

- Peeling
- Dissolving
- Incinerating

MASKING SOLUTIONS FOR DIFFERENT **PROCESS REQUIREMENTS**

BLASTING & PEENING

Protect critical surfaces during sandblasting, grit blasting, dry media blasting and shot peening. Resilient masking and strong adhesion help maintain defined edges under high-impact conditions.

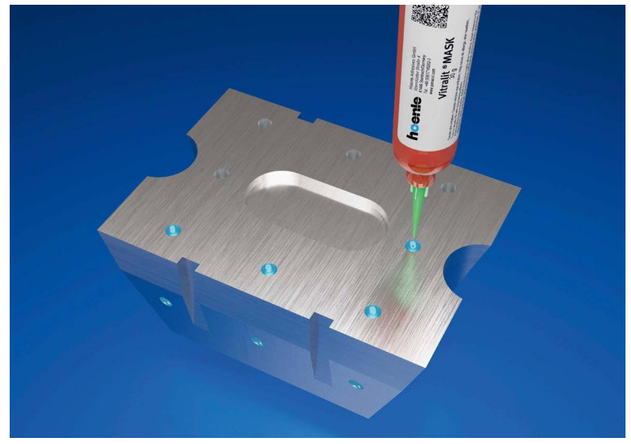


ACID STRIPPING, PLATING & ANODIZING

Temporarily isolate selected areas during chemical stripping, degreasing, plating and anodizing. Product selection must consider chemical exposure, temperature, adhesion and the intended removal route.

THERMAL & ENVIRONMENTAL BARRIER COATINGS

Precisely define coating-free zones during the application of Thermal Barrier Coatings (TBCs) and Environmental Barrier Coatings (EBCs), which protect hot engine and turbine components from heat and wear.



PAINTING & POWDER COATING

Protect surfaces from paint overspray or powder coat during the deposition process. Peelable masks with light adhesion are ideal for these surface treatments.

REMOVAL OPTIONS

DIRECT PEEL

Lower-adhesion masks can be peeled at room temperature or accelerated with a brief hot-water or hot-air treatment that makes the mask more elastic and easier to remove.

WATER DISSOLUTION

Water-soluble masks can be dissolved in hot, agitated water. This can be useful where individual peeling would add unnecessary handling.

THERMAL REMOVAL

Highly adhesive masks designed for rigorous processing can be removed by incineration. Where suitable, thermal removal may be combined with an existing component heat-treatment step.

FIND THE MASK
THAT FITS YOUR PROCESS

			Vitralit®								
			20100	20101	E-20102-G	E-20102-G GEL	20104	20110	20114	20117	20130	E-20131
Process	Air Plasma/HVOF			x	x	x				x	x	x
	Acid Strip			x	x	x				x	x	x
	General Plating			x	x	x				x		
	Anodizing				x	x				x		
	Grit Blast		x		x	x	x			x	x	x
	Shot Peen		x		x	x	x					
	Machining or Grinding		x	x	x	x						
	Polishing		x		x	x				x		x
	Laser Drill								x			
	Airflow Test							x				
	Paint							x				
	Powder Coat							x				
Characteristics	Viscosity (mPas)		200 - 400 (Brookfield, Sp. 2/60 rpm)	10,000 - 40,000	8,000 - 15,000	50,000 - 70,000	14,000 - 17,000	50,000 - 70,000	90 - 150	20,000 - 30,000	12,000	6,000
	Thixotropic index Shearrate 1/10, 1/s		newtonian	7 - 9	7 - 10	9	5 - 7	3.5 - 5.5	newtonian	3 - 4	7	4.5
	Features		Moderate adhesion water soluble mask	Hard, highest adhesion, acid resistant	High adhesion, durable, green color	High viscosity, thixotropic gel version of E-20102-G	Moderate adhesion	Very thick, low adhesion	Low viscosity cavity fill	Highest adhesion peelable mask, green color	High adhesion	ISO 10993-5 certified, CMR-free
Method	Application Method	Spray	x		x	x				x	x	x
		Needle	x	x	x	x	x	x	x	x	x	x
		Spatula	x	x	x	x	x	x		x	x	x
		Syringe		x		x	x	x	x	x	x	x
		Dip			x	x						x
		Jet Dispense										x
		Pourable							x			
	Cure Method*		UV	UV or heat	UV	UV	UV	UV	UV or heat	UV	UV	UV
	Removal Method	Dissolve in hot agitated water	x									
		Incinerate 900°F or higher (approx. 500°C)		x					x		x	
		Peel after hot water soak			2-3 min @≥ 176°F/80°C	2-3 min @≥ 150°F/65°C				2-3 min @≥ 150°F/65°C		2-3 min @≥ 150°F/65°C
		Peel @ room temperture					x	x				

*Note: Appropriate wavelength for UV curing and temperature for secondary heat curing can be obtained from the TDS.

CHOOSING THE RIGHT **CURING SYSTEM**

All Hoenle UV masking materials cure with LED or broad-spectrum UV systems. Compact LED heads and arrays can be positioned for optimized curing processes and the shortest possible cycle times. Our application engineers help you select the right mask and UV equipment as one matched system, tailored to your individual requirements, ensuring maximum productivity and efficiency in your bonding processes.

LED SPOTLIGHTS
High intensity small area UV irradiation

BLUEPOINT



LED LINE EMITTERS
High-power arrays with individual length

LED POWERLINE



LED FLOODLIGHTS
Homogeneous light distribution with high intensity

LED SPOT



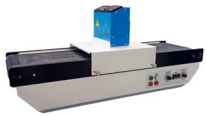
LED CURING CHAMBER
Reliable protection against UV radiation

LED CUBE



LED CONVEYORS
Can be combined with LED Powerline or LED Spot for high output

CONVEY LED



UV-MEASUREMENT
Measurement of intensity and dose for reliable process monitoring

UV METER



UV Sources	Dimension in mm	Available Wavelength in nm	Intensity in mW/cm2	Cooling
LED Spotlights	Light emission up to Ø 20	365/385/405	up to 20,000	air-cooled
LED Line Emitters	Light emission width 10/20/40, length variable	365/385/395/405/460	up to 25,000	air and water-cooled
LED Floodlights	Light emission 20x20 / 40x40 / 100x100 / 200x50	365/385/395/405/460	up to 30,000	air and water-cooled
LED Curing Chambers	Inner dimension 180x180 / 350x350	365/385/395/405/460	up to 5,000	air-cooled
LED Conveyor Belts	Belt width 110 - 520	365/385/395/405/460	up to 25,000	air and water-cooled

Hoenle Adhesives GmbH
Stierstädter Straße 4
61449 Steinbach GERMANY

Phone: +49 6171 6202-0
adhesivesystems@hoenle.com

For worldwide sales & technical support, please refer to our global contact directory www.hoenle.com/contact

Operating parameters depend on production characteristics and may differ from the foregoing information.
We reserve the right to modify technical data. © Copyright Hoenle Adhesives GmbH. Updated 11/2026.
Image Credits: Adobe Stock/murmakova (p.3, top)/Cezanne-Foto(p.5, top) - stock.adobe.com