PROGRAMMED SYSTEM TECHNIQUE
NORTH AMERICA

LESONAL®

UV Filler

Programmed System Technique (PST)
Primers
04/02/2022

DESCRIPTION

Lesonal UV Filler is an ultraviolet light curable surfacer suitable for small to medium repairs. The ability to spray UV Filler with a spray-gun provides increased application control. The surfacer only requires a short curing by UV light and offers customers the opportunity to drastically reduce their preparation process time.

Safety Considerations

- Use suitable personal protection.
- AkzoNobel recommends the use of a fresh air supply respirator.
- Refer to the product Safety Data Sheet (SDS) for more complete safety information.
- When curing with Ultra-Violet (UV) lighting it is necessary to use suitable UV protection equipment which covers all skin areas on the user's body. Wear long pants, long sleeves, gloves and cover the face with a UV filtering full face shield.

Mixing

- UV Filler requires no activation or mixing.
- Shake well before each use.

Equipment

HVLP or Compliant Spray-Gun Set-Up:

- 1.0 – 1.2mm

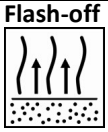
Application Air Pressure:

- HVLP max 10 psi (<0.7 bar) at the air cap.
- Consult spray gun manufacturer specifications

Application

- 2 x 1 Coats (2 single coats)

Flash-off



Flash Between Coats

- 2 minutes ambient flash

-or-

- 0-45 seconds UV flash (until matte)

Flash Before UV Curing

- 5 minutes before HID UV

-or-

- Direct to cure when using UV flash

✓ Refer to the **AkzoNobel Approved UV Lights** guide in the **Additional Information** section in the TDS for detailed information.

Drying time

400-Watt HID Lamp

- Dry to handle in 5 minutes

LED or High Watt/High Intensity Lamp

- Dry to handle in 5 seconds to 3 minutes

✓ **Important –** Ensure that proper safety equipment is used to protect the user's skin and eyes from UV Light exposure.

Recoatable with

As a Sanded Primer Surfacer Recoatable with:

- All Lesonal Primer Sealers
- All Lesonal Topcoats

UV Filler

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PRODUCTS AND ADDITIVES

Product

- Lesonal UV Filler Light Grey (0.75L) – Item# 576314
- Lesonal UV Filler Dark Grey (0.75L) – Item# 576313

METHOD OF USE

Suitable substrates

- Steel
- Galvanized steel
- Aluminum
- Autoprep Pretreatment Wipes
- Autoprep Etching Pen CF
- All Plastics Primer
- Raw non-olefin plastics
- Fiberglass gelcoat (unbroken)
- Polyester body filler
- Sanded OEM e-coat
- Existing finishes (except acrylic lacquers)

✓ UV Filler is not intended for large areas of bare metal. It will however provide adequate adhesion if applied directly to small metal areas. For small bare metal areas that must meet the highest standards, the AkzoNobel Autoprep Pretreatment Wipe is suggested before the application of primer. Allow a minimum of 15 minutes flash-off at 70°F (21°C) after pretreatment application.

✓ Do not apply UV Filler over acid containing wash primers.

✓ UV Filler can be applied directly over prepared plastics such as ABS, PC, and PUR.

✓ Plastics such as PP, PO, TPE, TPO, PP+EP, PP/EPM, PP/EPDM must be pre-coated with All Plastics Primer prior to the application of UV Filler.

Basic Raw Materials

- UV Filler - Acrylic polymers, acrylic monomers, pigments and mineral charge

Substrate preparation

Pre-cleaning

- If needed pre-wash the repair with warm soap and water. Rinse completely with clean water.
- Clean with Lesonal Surface Cleaner, Autoprep UltraPrep or Plastic Surface Cleaner.
- Avoid saturating body filler with water or cleaners while washing the repair.

Sanding Preparation	Dry Sanding	Wet Sanding
Existing Finishes	#P220 to #P360	#P500 – #P600
OEM E-Coat	#P320 to #P400	Not Required
Polyester Bodyfiller	#P180 to #P220	N/A
Steel	#P80 then #P120	N/A
Galvanized Steel	#P120 to #P180 or red scuff pad	N/A
Aluminum	#P180 or red scuff pad	N/A
Gel-Coat	#P220 to #P360	#P500 – #P600
Non-Polyolefin Plastic	#P320 to #P400	#P500 – #P600

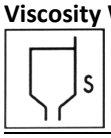
Surface Cleaning

- Clean with Surface Cleaner, Autoprep UltraPrep or Plastic Surface Cleaner prior to priming.

Mixing

- UV Filler does not require activation or mixing.
- Simply shake well before each use.

Viscosity When Mixed



Seconds Measured with a DIN #4 viscosity cup at 70°F (21°C).
15 – 16

Pot-life

- Up to one year in a closed container when not directly exposed to UV radiation.
  - Using UV Filler in black disposable cup/liner systems is a good way to block UV light.

Spray Gun Set-Up

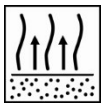
Spray Gun	Fluid Tip	Application Pressure
HVLP Gravity	1.0 – 1.2mm	10 psi (<0.7 bar) at air cap
Compliant Gravity	1.0 – 1.2mm	psi per spray gun manufacturer

✓ Consult spray gun manufacturer instructions for specific pressure recommendations.

Application

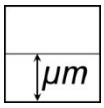
- UV Filler is semi-transparent to allow proper curing of the primer. Do not spray until hiding. Too much primer thickness may cause adhesion failures due to insufficient through cure.
- Do not apply UV Filler below a temperature 60°F (16°C). At lower temperatures solvent retention in the coating is high and may cause loss of gloss of the final repair over time.

- Apply one wet coat to the outer edge of the sanded area. Next, apply the 2nd coat within the previous coat.



- If using UV assisted flash, refer to the **AkzoNobel Approved UV Lights** guide in the **Additional Information** section at the bottom of this TDS.
- If not using UV assisted flash, allow 2 minutes at 70°F (21°C) between the coats. Flash is dependent on ambient temperature, applied layer thickness and airflow.

Film Thickness



Using Suitable Application
By using suitable application, 2 coats will provide 3.2-4.0 mils (80-100 µm) dry.

UV Curing Equipment Use

Personal Safety – Using UV curing equipment

- Care must be taken to avoid exposing your body and other workers to direct UV light.
- General recommendations –
  - Read and understand the safety information that came with the UV curing equipment. It can be safely used according to the lamp manufacturers' guidelines and instructions.
  - Avoid unnecessary exposure to UV light.
  - Never use a HID UV lamp with a broken UV glass lens/filter.
  - Never look directly into UV light or point the UV lamp at someone else.
  - Always use the recommended full coverage clothing and shields.
  - Experimenting with other types of UV curing equipment than that suggested in this TDS is associated with severe health risks. UV Filler is only offered for use with UV-A.
- Eyes –
  - Avoid looking directly at a UV light source. Always wear eye protection rated to filter UV.
- Skin –
  - Make sure all skin is covered and not exposed to the UV light.

Use of UV equipment in potentially explosive atmospheres (spray booths)

- Regulations require that safety systems and procedures are in place that integrates spraybooth safety systems. These integrated systems must ensure that sufficient purging or exhausting of fumes from the painting area is achieved prior to powering of the UV equipment.

- The use of equipment not EX certified should be evaluated for compliance with local regulations before using the equipment.

Thermal safety

- HID (High Intensity Discharge) lamps produce heat that may cause a high temperature at the lamp lens/filter surface. Avoided the direct contact with potentially flammable materials, e.g. masking, towels, or spraybooth paint filters.

Maintenance of UV equipment

- Regular inspection and cleaning of the UV lens/filter glass on the HID (high intensity discharge) lamps is necessary to ensure maximum UV output. The UV output will drop significantly with contaminated glass lenses.
- UV bulb replacement; the bulbs can contain hazardous elements and may need to be handled as chemical waste.

Performance assessments

- It is recommended to measure the lamp performance regularly and to use a measuring method that provides similar distance and position with each test.
- Keep a log of the in-use hours and the measured UV irradiation level to judge lamp performance over time.

Bulb Life expectancy

- Bulb life, especially HID lamps, is influenced on usage. We offer these recommendations –
  - When HID-lamps are switched OFF, let them cool down sufficiently before switching ON again.
  - Most lamp manufacturers recommend a 5-10 minute cool down period. Refer to the manufacturers' operation manual.
- When the unit is in use or still warm after use, place it carefully in a stable position thereby avoiding rough handling that may compromise the bulb.

DRYING / CURING TIME

Points of Attention

UV Curing

- Curing with sunlight is not recommended.
- For an even cure the primed area must be constantly irradiated with light from the UV lamp.
- Follow the lamp manufacturer instructions.
- 400-watt HID UV lamps often require 3 minutes of pre-heating before use.
- Curing speed is determined by several factors including –
  - Lamp intensity and UV spectra.
  - Distance between the lamp and the applied primer.
  - The thickness of the applied product.
  - Bulb service life and performance.
- If two spots are positioned close to each other and the footprint of the UV lamp is too small to cure both spots at once, make sure that the UV lamp does not partially irradiate one of the spots. Partial irradiation of one of the spots may cause wrinkling. There are two options –
  - Cure the spots separately at a close distance. Make sure that only one spot is irradiated at a time.
  - First, move the UV lamp slowly over the surface once. Then, post-cure the spots one-by-one according to the standard procedure.

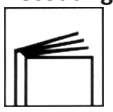
Drying / Curing Time

Times are stated following recommended application method, film thickness and object temperature.

- Refer to the **AkzoNobel Approved UV Lights** guide in the **Additional Information** section below.

POST-APPLICATION

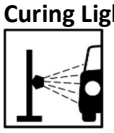
Recoating



- After properly curing and suitable surface preparation, Lesonal UV Filler can be recoated with all Lesonal undercoats and topcoats.

ADDITIONAL INFORMATION

Approved UV Curing Lights



Application Equipment

- Spray-gun: SATAjet 100 BF RP 1.1 fluid tip
- Film build before sanding: 4.0 mils (101.6 µm)

Equipment Manufacturer	Model	Lamp Type	Wattage	Voltage	Light to Panel Distance	8x8 Panel Flash Time	8x8 Panel Cure Time	Half Fender Flash Time	Half Fender Cure Time
Tesla Cure	R100	LED	100	110v, cordless	2-3”	8 sec.	30 sec.	15 sec	90 sec.
ChromaLectrix	TommyGunn PT-3	LED	N/A	110v, cordless	2-3”	12 sec.	30 sec.	30 sec.	90 sec.
Innovative Tools	Scangrip Nova-UV S	LED	N/A	110v, cordless	2-3”	30 sec.	90 sec.	45 sec.	3 min.
AMH Industries	Spectratek InstaCure UV	LED	55	110v, cordless	2-3”	7 sec.	30 sec.	15 sec.	60 sec.
AMH Industries	Spectratek 2400800UV	Std.	400x2	220v	4-6”	40 sec.	60 sec.	60 sec.	90 sec.
Jetlight	JUVC-5B	Std.	300w/in^2	110v	4-6”	0 sec.*	10 sec.	0 sec.*	15 sec.
SPDI	2K Fastlane	Std.	2400	220v	4-6”	0 sec.*	5 sec.	0 sec.*	10 sec.
AMH Industries	Spectratek 3000 UV LED	LED	170	110v	12”	7 sec.	45 sec.	7 sec.	60 sec.
Symach	LedTronic	LED	N/A	110v	6-8”	8 sec.	30 sec.	15 sec.	60 sec.
Hedson	IRT UV SmartCure	LED	350 mW/cm^2	110v, cordless	4-6”	8 sec.	30 sec.	15 sec.	60 sec.
Hedson	IRT SpotCure	LED	400	110v	4-6”	5 sec.	15 sec.	8 sec.	30 sec.
Scangrip	UV Gun	LED	340 mW/cm^2	110v	4-6”	5 sec.	15 sec.	8 sec.	30 sec.
Dedoes	UV Flashlight	LED	30	110v, cordless	4-6”	8 sec.	30 sec.	15 sec.	45 sec.
Colad	9000	LED	>20mW/cm^2	110v	4-6”	3 sec.	10 sec.	5 sec.	40 sec.

* 0 seconds indicates back-to-back application. No flash between coats required.

Cleaning of Equipment

Clean equipment following local and federal regulations. For national rule regions, use Lesonal Cleaning Solvent or high-quality lacquer thinner.

LESONAL®

UV Filler

Theoretical Coverage

By using the recommended application, the theoretical material usage for 1 mil (25.4 µm):

	ft²/gal	m²/L
• UV Filler	≈842	≈20.6

The practical material usage depends on many factors, i.e. shape of the object, roughness of the surface, application method and application circumstances.

VOC / Regulatory Information

System	VOC
• UV Filler Light Grey	– 1.72 lb/gal (206 g/L)
• UV Filler Dark Grey	– 1.72 lb/gal (206 g/L)

Product Storage

Stock unopened or used products in approved closed containers with proper labeling. Store in moderate temperatures between 40°F - 95°F (5°C – 35°C). Avoid too much temperature fluctuation. Optimum storage temperature is approximately 70°F (21°C)

UV Filler Light Grey	1 Year
UV Filler Dark Grey	1 year

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FOR PROFESSIONAL USE WITH SUITABLE HSE EQUIPMENT

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