

Spies Hecker® Matt Clear Coat System

Permacron® Matt System Clear Coat 8185

Permacron® Semi-Gloss System Clear Coat 8170



GENERAL

DESCRIPTION

A simpler way to the perfect matt look. Permacron Matt System Clear Coat 8185 and Permacron Semi-Gloss System Clear Coat 8170 make the application process effortless, so you can achieve smooth matt surface results with lasting quality, even for the trendy ultra-matt look on modern OEM vehicles.

- Suitable for the repair of modern ultra-matt OEM finishes
- Wide range of gloss levels from 5 to 65 Gloss Units at 60°
- Easy application in daily work routine
- Very good drying characteristics: 30 min at 140°F/60 °C
- Excellent homogeneous appearance
- Consistent, reproducible, clear coat results

The products referenced herein may not be available for sale in your market. Please consult your distributor for product availability.



MIXING COMPONENTS

- 8185 Permacron® Matt System Clear Coat 8185
- 8170 Permacron Semi-Gloss System Clear Coat 8170
- MA110 Permasolid Matting Component MA 110
- 3225 Permasolid® VHS Hardener 3225 (65°F/18°C to 85°F/26°C)
- 3240 Permasolid VHS Hardener 3240 Slow (85°F/26°C+)
- 3365 Permacron Reducer 3365 Slow

WATERBORNE BASECOAT- STANDARD APPLICATION

When applying over Permahyd® Hi-TEC base coat 480:

MATRIX	ML1	ML2	ML3	ML4	ML5	ML6
Weight (grams)	Weight (grams)	Weight (grams)	Weight (grams)	Weight (grams)	Weight (grams)	Weight (grams)
Gloss Level at 60°	5-10 GU	11-15 GU	16-25 GU	26-35 GU	36-50 GU	51-65 GU
8185	80	65	45	40	20	0
8170	20	35	55	60	80	100
3225/3240	26.6	26.6	26.6	26.6	26.6	26.6
3365	8.3	8.3	8.3	8.3	8.3	8.3

Stir the mixture of MA110 and 8170 thoroughly before adding hardener and reducer

WATERBORNE BASECOAT- LOW SIDE GLOSS APPLICATION

When applying over Permahyd® Hi-tech base coat 480:

MATRIX	ML1 LOW SIDE GLOSS	ML1 LOW SIDE GLOSS
Weight (grams)	Weight	Weight
Gloss Level at 60°	5-10 GU	5-10 GU
MA110	60	75
8170	40	25
3225	26.6	-
3240**	-	26.6
3365	8.3	8.3

**Recommended for large repairs at high temperatures above 85°F (>30°C).

Stir the mixture of MA110 and 8170 thoroughly before adding hardener and reducer

293/295 SOLVENT BASECOAT- STANDARD APPLICATION

When applying over Permacron base coat 293/295 or sanded old or original paintwork/clear coat:

MATRIX	ML1	ML2	ML3	ML4	ML5	ML6
Weight (grams)	Weight (grams)	Weight (grams)	Weight (grams)	Weight (grams)	Weight (grams)	Weight (grams)
Gloss Level at 60°	5-10 GU	11-15 GU	16-25 GU	26-35 GU	36-50 GU	51-65 GU
8185	100	70	50	45	30	10
8170	-	30	50	55	70	90
3225/3240	26.6	26.6	26.6	26.6	26.6	26.6
3365	8.3	8.3	8.3	8.3	8.3	8.3

Stir the mixture of 8185 and 8170 thoroughly before adding hardener and reducer

293/295 SOLVENT BASECOAT- LOW SIDE GLOSS

When applying over Permacron® base coat 293/295 or sanded old or original paintwork/clear coat:

MATRIX	ML1 LOW SIDE GLOSS	ML1 LOW SIDE GLOSS
Weight (grams)	Weight	Weight
Gloss Level at 60°	5-10 GU	5-10 GU
MA110	50	65
8170	50	35
3225	26.6	-
3240**	-	26.6
3363	8.3	8.3

**Recommended for large repairs at high temperatures above 85°F (>30°C).

Stir the mixture of MA110 and 8170 thoroughly before adding hardener and reducer

VISCOSITY

15 - 19 seconds at 68°F/20°C, DIN 4

POT LIFE

1 hr 15 min - 1 hr 30 min

SPECIAL TIPS

- Material has to be at room temperature (65-85°F/18-25°C) before use.
- Hand stir material thoroughly. Sedimentation in the can will lead to a gloss shift, so that the expected and required gloss level is not achieved.
- Following an initial hand stirring, the product can be fitted with a mixing lid and placed on the mixing machine. Surplus ready-for-use material should not be returned to the original can.
- Always mix fresh products prior to application and strictly adhere to the specified product adjustments. Product mix should be done by weight, to ensure the highest accuracy.
- Please consider that the gloss level can vary and is also dependent on the color being used. Because of this we recommend determining the best matching gloss level by producing spray-out cards relevant to the vehicle being repaired.
- Compare the spray-out cards to the vehicle being repaired to confirm color and gloss level accuracy. This should be done in daylight conditions where possible.
- When applying on plastic/flexible substrates, there is no need for additional elastification.
- Each coat has to be applied evenly to ensure a uniform closed film. Dry applications can lead to patchiness of the surface.
- It is required to work as clean as possible during all steps of the repair. Dust inclusions cannot be removed from the dry film by sanding and polishing.
- Allow sufficient time for pre-heating up to panel temperature during the forced drying process. Forced drying is the preferred drying method and gives the most stable and consistent reproducibility. Air dry overnight is possible but might lead to gloss deviations.
- Clearcoat fading/blending is not possible.
- Freshly painted substrates should be handled with care.
- The use of UV drying undercoats is not recommended and must be avoided when making Spies Hecker Matt Clear System repairs.

- The use of hardener/reducer combinations other than those recommended will impact the gloss level and final result considerably.
- Close can of hardener tightly immediately after use, as this product will react with humid air and water and lose its hardening effect.
- Please refer to the Matt Level (ML) information given for individual color formulas within ColorNet®.



APPLICATION

SUBSTRATES

Permahyd Hi-TEC 480

Permacron Base Coat Series 293/295

Fully cured OEM or existing topcoat (non-reversible)

SURFACE PREPARATION

Surfaces must be dried completely and flashed off in accordance with base coat TDS recommendations before application.

Old or original paintwork must be well sanded and cleaned.

SPRAYGUN SETUP

HVLP	1.3-1.4 mm
Approved Transfer Efficiency	1.3-1.4 mm

AIR PRESSURE

HVLP	8-10 psi at the gun cap
ATE, approved transfer efficiency	26-29 psi

Please refer to gun manufacturers and local legislation for proper spray pressure recommendations.

APPLICATION

- Apply 2 coats with 15 minutes intermediate flash-off between coats at 70°F (20°C).

BASE COAT BLENDING PROCESS

IMPORTANT APPLICATION ADVICE

Permahyd Hi-TEC Base Coat 480 :

When applying Permacron Matt Clear System onto Permahyd Hi-TEC Base Coat 480, all repair panels must be fully coated with either Permahyd Hi-TEC Base Coat 480 or Permahyd Hi-TEC Blend-in Additive and flashed-off. In order to avoid any gloss differences across the repair job, you must not leave any area uncoated. This process applies to all Permahyd Hi-TEC Base Coat colors (solids and effects).

Please refer to the dedicated Matrix table for the appropriate mixing ratio of the matt clear system and required gloss level.

Permacron Base Coat 293/295:

When applying Permacron Matt Clear System onto Permacron Base Coat 293/295, no special requirements need to be considered. Please refer to the dedicated Matrix table for the appropriate mixing ratio of the matt clear system and required gloss level when used on Permacron Base Coat.

Old or original paintwork/clearcoat, well sanded and cleaned:

When applying Permacron Matt Clear System onto this particular substrate, the substrate should be fully cured, well sanded, and thoroughly cleaned.

If a newly applied base coat has been overcoated with a regular gloss clear, it must be thoroughly dried, sanded, and cleaned prior to overcoating with the Matt Clear System.

Please refer to the dedicated Matrix table for the appropriate mixing ratio of the Matt Clear System and required gloss level when used on sanded old or original paintwork/clearcoat.

RECOMMENDED FILM THICKNESS

1.8-2.4 mil dry film thickness



DRY TIMES

Low bake

Flash-off time:

Drying time at target metal temperature:

140°F/60°C

140°F/60°C

15 minutes

25 minutes (3225) at

35 minutes (3240) at

(continued)



CLEANING, CARE, AND MAINTENANCE

CLEANING OF MATT FINISHES

Matt finishes require special maintenance when compared to traditional coatings that use a gloss clearcoat. Conventional, common and normal treatment of this special coating can lead to irreparable damage on the matt surface. This guideline is to help the car owner use the correct and appropriate care to keep the matt finish in a uniform and flawless condition over time.

On heavily soiled matt finishes, first remove dust and coarse dirt by cleaning the surface carefully. The use of a high-pressure cleaner is possible with care. Please refer to the specific OEM guidelines of the vehicle being repaired. The nozzle must be held at a distance of no less than 30 cm from the object.

Do not remove contaminants by using a dry cloth, as this may cause severe damage to the surface.

Remove stubborn traces of insects or bird droppings by first soaking in water. If these residues remain after washing, the use of insect removers or special cleaner for matt finishes with a micro fiber cloth is recommended.

Tar spots or splashes can be removed by using a commercial tar remover or silicone remover. Proceed carefully by using a micro fiber cloth and without excessive pressure.

Greasy or oily substances and fingerprints should be removed immediately. The use of 3M Glass Cleaner 08631 or special cleaner for matt finishes like SwissVax products should be used. Spray onto the affected area and wipe off gently by using a soft microfiber cloth. Do not try to remove any stubborn contaminants by rubbing the affected area with pressure, as this will cause patches with increased gloss which cannot be reversed.

After removing the contamination, start the washing process by rinsing the vehicle with plenty of clean water. Washing the vehicle by hand using a soft sponge or micro fiber cloth is recommended.

Please use a neutral detergent or car wash product specifically developed for matt finishes. Make sure that the washing agent does not contain any wax or polish ingredients as this may lead to irritations or unevenness on the matt finishes.

Rinse the vehicle again with plenty of clean water and dry with a soft microfiber towel. Please follow the manufacturer instructions of the cleaning product in use.



DO'S AND DON'TS



Do not apply any polish or wax compounds for gloss surfaces to the matt finish, as this will cause blotchy patches. Protect matt finishes from environmental influences by using products which are specifically developed for matt finishes only and always adhere to the manufacturers' guidelines.



Even if some OEMs allow the use of an automatic carwash, manual car washing by hand is preferred. This is due to the quality of brushes, cleaning agents in use and program settings being unknown and repeated use over time result in gloss differences appearing in the matt finish.

When hand washing your vehicle, do not use the same sponge for your wheels and painted surfaces, as hard dirt particles or little stones can penetrate into your sponge and can leave surface scratches on your matt paint.



Do not apply any adhesive labels, stickers or similar items to the matt paint surface, as adhesive residues can damage the paint film. The use of magnetic signs should be avoided, as this can leave tiny scratches in the matt paint surface.

Rubbing with high pressure to remove any contamination on the matt surface should be avoided as this will cause patches with increased gloss which cannot be reversed.



In order to avoid water spots, please do not let the vehicle air dry. Always dry the car by using a damp leather cloth or soft micro fiber towel. Do not wash the car in direct sunlight and ensure that the paint surface is not hot.

Because environmental influences and weathering can impact the appearance of the matt paint over time, the use of special matt finishes waxes, e.g. SwissVax could be considered to refresh the look of the matt surface. These kinds of products can also be used to adapt the look of freshly applied matt surfaces to adjacent old paint work. If required, apply the special matt finish wax to the adjacent old paint work to equalize the appearance of both surfaces.

Slight irritations, marring or fingerprints caused during the re-assembly process of the freshly applied matt finish can be removed by spraying 3M Glass Cleaner 08631 or 3M Finish Control Spray 55535 onto the affected area and wipe off with a clean micro fiber cloth.

SURFACE PREPARATION FOR SPECTRO MEASUREMENT



Having a clean surface is essential to carry out spectro measurement. With matt finishes you can't simply polish the surface to remove any scratches or oxidation which is on the surface.

When the car is thoroughly cleaned (please follow our recommendation for cleaning of matt finishes), it is recommended to look for an area which is:

- As close to the repair as practically viable
- Undamaged and free of scratches
- Free of surface contamination as possible

When you have determined your chosen area, remove any initial and remaining contamination using 200™ Silicone Remover Slow, 220™ Silicone Remover Low VOC, 210™ Silicone Remover Water, or 205A™ Silicone Remover Spray.

Follow this by using a cleaning product developed for matt finishes, e.g. SwissVax products.

The final step is to make the surface ready for measuring by a final clean with 220™ Silicone Remover Low VOC, or 210™ Silicone Remover Water.

Always use a soft cleaning or micro fiber cloth. Do not use hard paper cloth as this may leave fine scratches in the surface of the matt finish.

Follow, as well, the advice and recommendations of the manufacturer of the cleaning product in use.



PHYSICAL PROPERTIES

All Values ready-to-spray

Coating Category: Matte Clear Coating

Max. VOC (AP):	550 g/l; 4.6 lbs/gal
Max. VOC (LE):	550 g/l; 4.6 lbs/gal
Avg. Gallon Weight:	990 g/l; 8.3 lbs/gal
Avg. Weight % Volatiles:	55.6 %
Avg. Weight % Water:	0.0%
Avg. Weight % Exempt Solvent:	0.0%
Avg. Volume % Water:	0.0%
Avg. Volume % Exempt Solvent:	0.0%

Theoretical Coverage: 604 sq. ft. @ 1 mil

Theoretical Coverage @ Recommended Film Build: 335 – 252 sq. ft.

VOC REGULATED AREAS

These directions refer to the use of products which may be restricted or require special mixing instructions in VOC regulated areas. Follow mixing usage and recommendations in the VOC Compliant Products Chart for your area

SAFETY AND HANDLING

For industrial use only by professional, trained painters. Not for sale to or use by the general public. Before using, read and follow all label and MSDS precautions. If mixed with other components, mixture will have hazards of all components.

Ready to use paint materials containing isocyanates can cause irritation of the respiratory organs and hypersensitive reactions. Before using, read and follow all label and MSDS precautions. Asthma sufferers, those with allergies and anyone with a history of respiratory complaints must not be asked to work with products containing isocyanates.

Do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves.

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