



Technical Data Sheet.

Spies Hecker Matt Clear Coat System

Easy as 1+1

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 60 °C
- Excellent homogeneous appearance
- Consistent, reproducible clear coat results

For professional use only!

Spies Hecker simply closer.



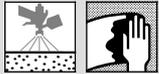
An Axalta Coating Systems Brand

Spies Hecker Matt Clear Coat System

Product preparation - application STANDARD



It is strongly recommended to use appropriate personal protection equipment during application to avoid respiratory, skin and eye irritation.



Permahyd Hi-TEC Base Coat 480 / Permahyd Base Coat 280/285: Surfaces must be dried / flashed-off in accordance with TDS before application
 Permacron Basecoat 293/295: Surfaces must be dried / flashed-off in accordance with TDS before application
 Old or original paintwork well sanded and cleaned.



Matt System Clearcoat	Hardener	Reducer
Weight	Weight	Weight
100*	26.6	9.1
8185 / 8170*	3225	3385
	3240**	

*For the required gloss level and mixing ratio, please refer to the Matrix table.

**Recommended for large repairs at high temperature >30°C.

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



Potlife at 20°C: 1 hr 15 min - 1 hr 30 min



	Spray nozzle	Spray pressure	
Compliant	1.3 - 1.4	1.8 - 2 bar	inlet pressure

see manufacturer's instructions



2 coats

intermediate and final flash-off: 15 min at 20°C



	3225/3240
60 - 65 °C	25 min - 35 min

VOC compliant

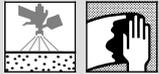
2004/42/IB/(e)(840) 530: The EU limit value for this product (product category: (e)) in ready to use form is maximum 840 g/l of VOC. The VOC content of this product in ready to use form is maximum 530 g/l.

Spies Hecker Matt Clear Coat System

Product preparation - application LOW SIDE GLOSS



It is strongly recommended to use appropriate personal protection equipment during application to avoid respiratory, skin and eye irritation.



Permahyd Hi-TEC Base Coat 480 / Permahyd Base Coat 280/285: Surfaces must be dried / flashed-off in accordance with TDS before application
 Permacron Basecoat 293/295: Surfaces must be dried / flashed-off in accordance with TDS before application
 Old or original paintwork well sanded and cleaned.



Matting Component/Matt System Clearcoat	Hardener	Reducer
Weight	Weight	Weight
100*	26.6	9.1
MA110 / 8170*	3225	3385
	3240**	

*For the required gloss level and mixing ratio, please refer to the Matrix table.

**Recommended for large repairs at high temperature >30°C.

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



Potlife at 20°C: 1 hr 15 min - 1 hr 30 min



	Spray nozzle	Spray pressure	
Compliant	1.3 - 1.4	1.8 - 2 bar	inlet pressure

see manufacturer's instructions



2 coats intermediate and final flash-off: 15 min at 20°C



	3225/3240
60 - 65 °C	25 min - 35 min

VOC compliant

2004/42/IB/(e)(840) 530: The EU limit value for this product (product category: (e)) in ready to use form is maximum 840 g/l of VOC. The VOC content of this product in ready to use form is maximum 530 g/l.

Spies Hecker Matt Clear Coat System

Product preparation - application MATTRIX



It is strongly recommended to use appropriate personal protection equipment during application to avoid respiratory, skin and eye irritation.



MATTRIX STANDARD*	ML1	ML2	ML3	ML4	ML5	ML6
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

*When applying on Permahyd Hi-TEC Base Coat 480 or Permahyd Base Coat 280/285.

MATTRIX STANDARD**	ML1	ML2	ML3	ML4	ML5	ML6
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	0	30	50	55	70	90

**When applying on Permacron Base Coat 293/295 or on sanded old or original paintwork/clearcoat

MATTRIX	ML1 LOW SIDE GLOSS*
Gloss Level at 60°	5-10 GU
MA110	40 - 25
8170	60 - 75

*When applying on Permahyd Hi-TEC Base Coat 480 or Permahyd Base Coat 280/285.

MATTRIX	ML1 LOW SIDE GLOSS**
Gloss Level at 60°	5-10 GU
MA110	50 - 35
8170	50 - 65

**When applying on Permacron Base Coat 293/295 or on sanded old or original paintwork/clearcoat
Please refer to the Matt Level (ML) information given in the individual colour formula and check for available mixing ratios on Phoenix ancillary product mix.



Not applicable

VOC compliant

2004/42/IIIB/(e)(840) 530: The EU limit value for this product (product category: (e)) in ready to use form is maximum 840 g/l of VOC. The VOC content of this product in ready to use form is maximum 530 g/l.

Spies Hecker Matt Clear Coat System

Basecoat 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 coloured 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 colours (solids and effects).

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

Permahyd Base Coat 280/285:

When applying Permacron Matt Clear System onto Permahyd Base Coat 280/285, all repair panels must be fully coated with either coloured Permahyd Base Coat 280/285 or Permahyd Base Coat WB888 Transparent 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 Base Coat colours (solids and effects). Please refer 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 are 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.

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Application process on old or original paintwork.

IMPORTANT APPLICATION ADVICE

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 newly applied base coat has been overcoated with a normal gloss clear, this 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.

Spies Hecker Matt Clear Coat System

Cleaning, care and maintenance of matt finishes

CLEANING OF THE 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 of 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 micro fibre 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 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 damp leather cloth or soft micro fiber towel.

Please follow the manufacturer instructions of the cleaning product in use.

Spies Hecker Matt Clear Coat System

Cleaning, care and maintenance of matt finishes

DO'S AND DONT'S



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 kind 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.

Do not touch the freshly applied matt paint until it is completely dried and cooled down. Touching the still warm surface might leave blotchy prints or patches in the surface. The vehicle must not be polished!

These recommendations and guidelines are not exhaustive and do not cover all different OEM recommendations, we suggest that you refer to the specific OEM manuals for care and maintenance of the original matt finish in place.

Spies Hecker Matt Clear Coat System

Cleaning, care and maintenance of matt finishes

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 Permaloid® Silicone Remover 7010 and/or Permahyd® Silicone Remover 7080. 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 Permahyd® Silicone Remover 7080. Always use a soft cleaning or micro fibre 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.

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Products

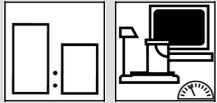
Permacron® Matt System Clear Coat 8185
 Permacron® Semi-Gloss System Clear Coat 8170

Permasolid® VHS Hardener 3225
 Permasolid® VHS Hardener 3240 extra slow

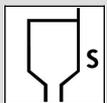
Permacron® Reducer 3385 slow

Permasolid® Matting Component MA 110

Product mix



Mixing ratios with special agents are available in the productmix table on Phoenix and in the specific TDS.



DIN 4: 15 - 19 s at 20°C



45 - 60 µm

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Remarks

- Material has to be at room temperature (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 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 highest accuracy.
- Please consider that the gloss level can vary and is also dependent on the colour being used. Because of this we recommend to define the best matching gloss level by producing sprayout cards relevant to the vehicle being repaired.
- Compare the spray out cards to the vehicle being repaired to confirm colour 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 can not 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 in the build-up with Matt Clear System.
- The use of hardener/reducer combinations other than those 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 in the individual colour formula and check for available mixing ratios on Phoenix ancillary product mix.

Consult Safety Data Sheet prior to use. Observe the precautionary notices displayed on the container.

All other products referred to in the refinish build up are from our Spies Hecker product range. System properties will not be valid when the related material is used in combination with any other materials or additives which are not part of our Spies Hecker product range, unless explicitly indicated otherwise.

For professional use only! The information provided in this documentation has been carefully selected and arranged by us. It is based upon our best knowledge on the subject at the date of issuance. The Information is given for information purposes only. We are not liable for its correctness, accuracy and completeness. It is up to the user to check the information with regard to up-to-dateness and suitability for his intended purpose. The intellectual property in this Information, including patents, trademarks and copyrights, is protected. All rights reserved. The relevant Material Safety Data Sheet and Warnings displayed on the product label need to be observed. We may modify and/ or discontinue operation of all or portions of this Information at any time in our sole discretion, without notice and assume no responsibility to update the Information. All rules set forth in this clause shall apply accordingly for any future changes and amendments.