



2K Tinted Clear Coat Repair Process



GENERAL

DESCRIPTION

Spies Hecker® Permasolid® Clear Coat Additives 9045, 9056, and 9057 will be needed to tint your existing Spies Hecker® 2K clear coat for matching and repairing unique OEM blues like Ford Z9 or reds like Toyota 3T5 or 3T7, Nissan NBA, or Ford R3. The resulting blue or red tinted clear coats can be used over either Permacron® Base Coat Series 293/295 or Permahyd® Hi-TEC 480. 9045 is needed for matching Ford Z9, 9056 is needed for matching Toyota 3T5, 3T7, and Nissan NBA, and 9057 is needed for matching Ford R3.

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



MIXING

COMPONENTS

- Permasolid® Clear Coat Color Additive 9045
- Permasolid® Clear Coat Color Additive 9056
- Permasolid® Clear Coat Color Additive 9057

CLEARCOATS

- Permacron® Clear Coats
- Permasolid® Clear Coats

MIX RATIO

PERMASOLID HS HARDENERS

Mixing table for 9045, 9056, or 9057 and Permacron® or Permasolid® clear coat with HS Hardeners. **Activate and reduce the clear coat after it has been tinted.**

In U.S. National Rule States, when using 9045 in 8180 or 8046 clear coat waterborne base coat must be used.

Spies Hecker Permacron or Permasolid Clear Coat	Permacron or Permasolid Clear Coat by weight	Permasolid Clear Coat Color Additive 9045 by weight	Permasolid Clear Coat Color Additive 9056 by weight	Permasolid Clear Coat Color Additive 9057 by weight	Mixing Ratio according to Spies Hecker Permacron or Permasolid Clear Coat TDS
Permacron MS Express Clear Coat 8046	100 grams	1.0 gram	2.0 grams	3.0 grams	2:1 + 0 - 5%
Permacron MS Clear Coat 8180	100 grams	1.0 gram	2.0 grams	3.0 grams	2:1
Permasolid HS Clear Coat 8035	100 grams	1.0 gram	2.0 grams	3.0 grams	2:1 + 0 - 5%
Permasolid Low VOC Clear Coat 8096	100 grams	1.0 gram	2.0 grams	3.0 grams	3:2 + 5 - 15%



PERMASOLID VHS HARDENERS

Mixing table for 9045, 9056, or 9057 and Permacron® or Permasolid® clear coat with VHS Hardeners. **Activate and reduce the clear coat after it has been tinted.**

In U.S. National Rule States, when using 9045 in 8180 or 8046 clear coat waterborne base coat must be used.

Spies Hecker Permacron or Permasolid Clear Coat	Permacron or Permasolid Clear Coat by weight	Permasolid Clear Coat Color Additive 9045 by weight	Permasolid Clear Coat Color Additive 9056 by weight	Permasolid Clear Coat Color Additive 9057 by weight	Mixing Ratio according to Spies Hecker Permacron or Permasolid Clear Coat TDS
Permasolid HS Optimum Clear Coat 8600	100 grams	1.0 gram	2.0 grams	3.0 grams	3:1 + 0 - 5%
Permacron MS Express Clear Coat 8046	100 grams	1.0 gram	2.0 grams	3.0 grams	3:1 + 10%
Permacron MS Clear Coat 8180	100 grams	1.0 gram	2.0 grams	3.0 grams	3:1 + 10%
Permasolid HS Clear Coat 8035	100 grams	1.0 gram	2.0 grams	3.0 grams	3:1 +15 - 20%
Permasolid HS Diamond Clear Coat 8450	100 grams	1.0 gram	2.0 grams	3.0 grams	3:1 + 0 - 5%
Permasolid Low VOC Clear Coat 8096	100 grams	1.0 gram	2.0 grams	3.0 grams	5:2 + 20 - 25%
Permasolid Air Dry Clear Coat 8094	100 grams	1.0 gram	2.0 grams	3.0 grams	4:1 + 30%



PERMASOLID LOW VOC HARDENERS

Mixing table for 9045, 9056, or 9057 and Permasolid® clear coat with Low VOC Hardeners. **Activate and reduce the clear coat after it has been tinted.**

Spies Hecker Permacron or Permasolid Clear Coat	Permacron or Permasolid Clear Coat by weight	Permasolid Clear Coat Color Additive 9045 by weight	Permasolid Clear Coat Color Additive 9056 by weight	Permasolid Clear Coat Color Additive 9057 by weight	Mixing Ratio according to Spies Hecker Permacron or Permasolid Clear Coat TDS
Permasolid Low VOC Clear Coat 8096	100 grams	1.0 gram	2.0 grams	3.0 grams	2:1 + 10 - 15%
Permasolid Low VOC Clear Coat 8098	100 grams	1.0 gram	2.0 grams	3.0 grams	2:1 + 5%
Permasolid Air Dry Clear Coat 8094	100 grams	1.0 gram	2.0 grams	3.0 grams	4:1 + 20%

APPLICATION VISCOSITY

Please refer to the TDS for viscosity range of the respective Permacron® or Permasolid® clear coat to be used.

POT LIFE

Approximately 0.5-1 hour at 68°F/20°C when ready to spray.

SPECIAL TIPS

- 15% Permasolid® Elastic Additive 9050 can be added to either the Permacron® or Permasolid® **tinted clear coat**. Permasolid® Elastic Additive 9050 must be mixed with the **tinted clear coat** or **untinted clear coat** prior to the addition of hardener and reducer. Note: If Permasolid® Elastic Additive 9050 is added to the **tinted clear coat**, it should also be added in the same amount to the **untinted Permacron® or Permasolid® clear coat**. Create a let-down panel and verify color when adding 15% Permasolid® Elastic Additive 9050 to the **tinted clear coat**.



APPLICATION

SUBSTRATES

Permacron® Base Coat Series 293/295 (ground coat)
 (See Technical Data Sheet 970.10 or 970.13)
 Permahyd® Hi-TEC 480 (ground coat)
 (See Technical Data Sheet 480)

SPRAYGUN SETUP

HVLP 1.3-1.4mm
 Approved Transfer Efficiency 1.2-1.3mm

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



APPLICATION

- Apply 1-2 coats as needed for color match.
- Please refer to the respective Permacron® or Permasolid® clear coat TDS for product specific recommended flash-off times between coats.

2K Tinted Clear Coat Repair Process

1. Check color:

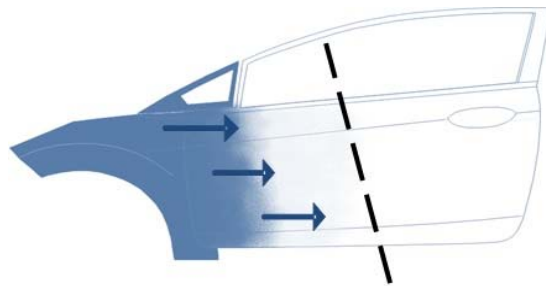
Create a let-down panel to establish # of coats of **tinted** clear coat needed for color match.

2. Apply and blend the base coat:

Refer to the Permacron® Base Coat Series 293/295 TDS (970.10 or 970.13) or the Permahyd® Hi-TEC 480 TDS.

3. Blend the tinted clear coat:

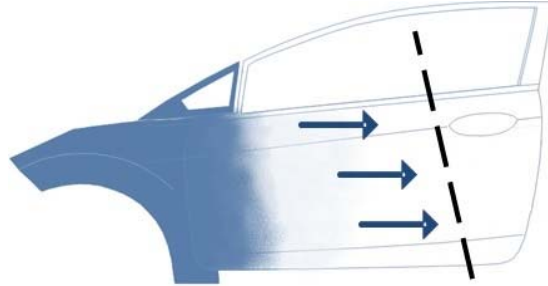
Recoat the base coat with a single coat of **tinted** clear coat and verify color match. Apply additional coat(s) of **tinted** clear with minimal flash (2 – 5 minutes between coats), depending on clear choice, as needed to achieve color match (generally only 2 coats are required).



Fade out zone of the **tinted** clear coat.

Important Note: The **tinted** clear coat should not be applied over the entire blend panel or a darker color will result at the end of the panel.

Stagger **tinted** clear coat with each new application for best results.



Fade out zone of the **tinted** clear coat.

4. Blend the clear coat into the tinted clear coat:

Apply a single application of the **untinted** Permacron® or Permasolid® clear coat from outside in.



Blending the **untinted** clear coat.

Blend the **untinted** clear coat wet-on-wet into the **tinted** clear coat.



Please refer to the TDS of the respective Permacron® or Permasolid® clear coat used for application recommendations.



Please refer to the TDS of the respective Permacron® or Permasolid® clear coat used for flash-off and drying time recommendations.



When using 9045 tinted clear coat:

Due to the low concentration of pigment required for 9045 **tinted** clear coat, it is not necessary to overcoat with another application of **untinted** clear coat.

Proceed to and end with Step 5.

If a defect is present and sanding and polishing are required, overcoating with **untinted** clear is possible; **in this case, proceed to steps 6, 7, 8, and 9.**

When using 9056 or 9057 tinted clear coat, over coating with untinted clear coat is required.

Proceed to Steps 6, 7, 8, and 9.



DRY TIMES

5. When using 9045 tinted clear coat, complete the repair by following the normal bake cycle required for the respective Permacron® or Permasolid® clear coat used. Please refer to the TDS of the respective Permacron® or Permasolid® clear coat used.



DRY TIMES

6. When using 9056 or 9057 tinted clear coat or correcting a defect in the 9045, 9056, or 9057 tinted clear coat, sanding and polishing are required. Follow the normal bake cycle required for the respective Permacron® or Permasolid® clear coat used. Please refer to the TDS of the respective Permacron® or Permasolid® clear coat used.

7. After bake, allow panel(s) to cool completely.

A careful intermediate sanding with P1000-P2000 is optional.



APPLICATION

8. Apply 1.5 - 2.0 coats of **untinted** Permacron® or Permasolid® clear coat.



DRY TIMES

9. Please refer to the TDS of the respective Permacron® or Permasolid® clear coat used for dry time recommendations.



PHYSICAL PROPERTIES

Clear Coating (8046 w/ HS Hardeners)
 Max. VOC (AP): 503 g/l; 4.2 lbs/gal
 Max. VOC (LE): 515 g/l; 4.3 lbs/gal
 Avg. Gallon Weight: 984.7 g/l; 8.22 lbs/gal
 Avg. Weight % Volatiles: 52.5%
 Avg. Weight % Water: 0.0%
 Avg. Weight % Exempt Solvent: 1.1%
 Avg. Volume % Water: 0.0%
 Avg. Volume % Exempt Solvent: 1.3%
 Theoretical Coverage: 657.5 sq. ft @ 1 mil
 Clear Coating (8180 w/ HS Hardeners)
 Max. VOC (AP): 503 g/l; 4.2 lbs/gal
 Max. VOC (LE): 503 g/l; 4.2 lbs/gal
 Avg. Gallon Weight: 993.3 g/l; 8.29 lbs/gal
 Avg. Weight % Volatiles: 51.2%
 Avg. Weight % Water: 0.0%
 Avg. Weight % Exempt Solvent: 0.0%
 Avg. Volume % Water: 0.0%
 Avg. Volume % Exempt Solvent: 0.0%

Theoretical Coverage: 689.2 sq. ft @ 1 mil

Clear Coating (8035 w/ HS Hardeners)
 Max. VOC (AP): 479 g/l; 4.0 lbs/gal
 Max. VOC (LE): 479 g/l; 4.0 lbs/gal
 Avg. Gallon Weight: 1001.7 g/l; 8.36 lbs/gal
 Avg. Weight % Volatiles: 47.7 %
 Avg. Weight % Water: 0.0%
 Avg. Weight % Exempt Solvent: 0.0%
 Avg. Volume % Water: 0.0%
 Avg. Volume % Exempt Solvent: 0.0%

Theoretical Coverage: 752.4sq. ft @ 1 mil

Clear Coating (8096 w/ HS Hardeners)
 Max. VOC (AP): 360 g/l; 3.0 lbs/gal
 Max. VOC (LE): 419 g/l; 3.5 lbs/gal
 Avg. Gallon Weight: 1051.3 g/l; 8.77 lbs/gal
 Avg. Weight % Volatiles: 50.2%
 Avg. Weight % Water: 0.0 %
 Avg. Weight % Exempt Solvent: 15.6%
 Avg. Volume % Water: 0.0%
 Avg. Volume % Exempt Solvent: 13.6 %

Theoretical Coverage: 732.8 sq. ft @ 1 mil



Clear Coating (8046 w/ VHS Hardeners)
Max. VOC (AP): 479 g/l; 4.0 lbs/gal
Max. VOC (LE): 479 g/l; 4.0 lbs/gal
Avg. Gallon Weight: 988.1 g/l; 8.24 lbs/gal
Avg. Weight % Volatiles: 49.2%
Avg. Weight % Water: 0.0%
Avg. Weight % Exempt Solvent: 1.2%
Avg. Volume % Water: 0.0%
Avg. Volume % Exempt Solvent: 1.4%

Theoretical Coverage: 705.1 sq. ft @ 1 mil

Clear Coating (8180 w/ VHS Hardeners)
Max. VOC (AP): 503 g/l; 4.2 lbs/gal
Max. VOC (LE): 503 g/l; 4.2 lbs/gal
Avg. Gallon Weight: 993.3 g/l; 8.29 lbs/gal
Avg. Weight % Volatiles: 50.1%
Avg. Weight % Water: 0.0%
Avg. Weight % Exempt Solvent: 0.0%
Avg. Volume % Water: 0.0%
Avg. Volume % Exempt Solvent: 0.0%

Theoretical Coverage: 703.9 sq. ft @ 1 mil

Clear Coating (8035 w/VHS Hardeners)
Max. VOC (AP): 479 g/l; 4.0 lbs/gal
Max. VOC (LE): 479 g/l; 4.0 lbs/gal
Avg. Gallon Weight: 999.0 g/l; 8.34 lbs/gal
Avg. Weight % Volatiles: 48.4 %
Avg. Weight % Water: 0.0%
Avg. Weight % Exempt Solvent: 0.0%
Avg. Volume % Water: 0.0%
Avg. Volume % Exempt Solvent: 0.0%

Theoretical Coverage: 739.7 sq. ft @ 1 mil

Clear Coating (8096 w/ VHS Hardeners)
Max. VOC (AP): 360 g/l; 3.0 lbs/gal
Max. VOC (LE): 419 g/l; 3.5 lbs/gal
Avg. Gallon Weight: 1050.5 g/l; 8.77 lbs/gal
Avg. Weight % Volatiles: 50.1%
Avg. Weight % Water: 0.0 %
Avg. Weight % Exempt Solvent: 16.2%
Avg. Volume % Water: 0.0%
Avg. Volume % Exempt Solvent: 14.2 %

Theoretical Coverage: 734.5 sq. ft @ 1 mil

Clear Coating (8600 w/ VHS Hardeners)
Max. VOC (AP): 479 g/l; 4.0 lbs/gal
Max. VOC (LE): 479 g/l; 4.0 lbs/gal
Avg. Gallon Weight: 986.5 g/l; 8.23 lbs/gal
Avg. Weight % Volatiles: 48.1%
Avg. Weight % Water: 0.0 %
Avg. Weight % Exempt Solvent: 0.0%
Avg. Volume % Water: 0.0%
Avg. Volume % Exempt Solvent: 0.0 %

Theoretical Coverage: 735.7 sq. ft @ 1 mil



Clear Coating (8450 w/ VHS Hardeners)
Max. VOC (AP): 467 g/l; 3.9 lbs/gal
Max. VOC (LE): 467 g/l; 3.9 lbs/gal
Avg. Gallon Weight: 987.9 g/l; 8.24 lbs/gal
Avg. Weight % Volatiles: 47.1%
Avg. Weight % Water: 0.0 %
Avg. Weight % Exempt Solvent: 0.0%
Avg. Volume % Water: 0.0%
Avg. Volume % Exempt Solvent: 0.0 %

Theoretical Coverage: 749.7 sq. ft @ 1 mil

Clear Coating (8096 w/ Low VOC Hardeners)
Max. VOC (AP): 156 g/l; 1.3 lbs/gal
Max. VOC (LE): 240 g/l; 2.0 lbs/gal
Avg. Gallon Weight: 1138.8 g/l; 9.5 lbs/gal
Avg. Weight % Volatiles: 54.4%
Avg. Weight % Water: 0.0 %
Avg. Weight % Exempt Solvent: 40.9%
Avg. Volume % Water: 0.0%
Avg. Volume % Exempt Solvent: 36.1 %

Theoretical Coverage: 727.2 sq. ft @ 1 mil

Clear Coating (8098 w/ Low VOC Hardeners)
Max. VOC (AP): 156 g/l; 1.3 lbs/gal
Max. VOC (LE): 240 g/l; 2.0 lbs/gal
Avg. Gallon Weight: 1148.4 g/l; 9.58 lbs/gal
Avg. Weight % Volatiles: 55.2%
Avg. Weight % Water: 0.0 %
Avg. Weight % Exempt Solvent: 41.6%
Avg. Volume % Water: 0.0%
Avg. Volume % Exempt Solvent: 36.2 %

Theoretical Coverage: 717.6 sq. ft @ 1 mil

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. 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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