INFINITI SERVICE BULLETIN

Classification:	Reference:	Date:
BT07-036b	ITB07-047b	June 29, 2009

PAINT REFINISH FOR SCRATCH SHIELD

This bulletin has been amended. Applied Vehicles and Service Information has been updated.
Please discard all earlier versions.

APPLIED VEHICLES: 2008 – 2009 EX35 (J50)
2009 FX (S51)
2009 G37 Sedan (V36)
2009 G37 Coupe (CV36)
2009 M45 (Y50)

SERVICE INFORMATION

Scratch Shield is a newly developed scratch-resistant clear coat which “heals” by itself when the vehicle gets a small scratch in the clear coat. If the scratch reaches the color base coat, however, it will not “heal”. Scratch Shield was implemented for the first time in the U.S. with the 2008 EX35.

All vehicles that have scratch shield clear coat carry a label which is typically located underneath the hood. See Figure 1.

Figure 1

Authorized Paint Suppliers

Infiniti is working with refinish paint vendors to develop approved materials and procedures for proper refinishing of vehicles with Scratch Shield.

To ensure proper color matching, adhesion, and long term wear characteristics, vehicles needing paint refinish work must be refinished with products that have been tested and approved by Infiniti.

At the time of this publication, the following refinish paint manufacturers have provided materials and procedures, which meet Infiniti requirements:

Manufacturer	Clear	Reducer	Hardener/Activator	Flex Additive
DuPont®	Chorma Premier Clear 72500S	Chorma Premier 12375S Reducer	Chorma Premier 12303S Activator	Plas-Stick 2350S Flexiible Additive
Spies Hecker (DuPont®)	Permasolid HS Diamond Clear Coat 8450/HS Clear Coat 8030	Permacron Reducer	Permasolid VHS Hardeners	Permasolid Elastic Additive 9050
Standox® (DuPont®)	Standocryl VOC PlatinumClear / 2KHS Clear	2K Thinners	Standox® VOC Hardeners	Sandox® 2K Plasticiser
PPG	D8126 CeramiClear™		D8226 Hardener	
Glasurit® (BASF)	923-45 923-345	352-91/216 352-25/-45	929-33/31 929-346	
Sherwin-Williams	SRC2 Clear Coat	R26, R28, US3-6 Reducers	UH20 Hardener	

If your paint system supplier does not have Infiniti approved Scratch Shield refinish products, specific technical advice can be acquired from the local distributor of the paint suppliers listed on page one. If your paint supplier is not approved and you need to obtain refinish materials from one of the approved vendors, you will also need to purchase the necessary primers, reducers, hardeners and base coat from that distributor. Current refinish materials are designed to work as a system and products from different vendors should not be mixed together.

SERVICE PROCEDURE

When repairing a panel with the Scratch Shield refinish products, follow the guidelines below:

- Edge to edge refinish for clear coat is recommended.
- Acceptable blending could occur in an area out of sight (ex: rocker area); and the upper portion of the quarter panel sail area (junction of roof and quarter panel) as part of a full quarter panel refinish. Thoroughly dry the blending part before polishing.
- Polish the refinished area as recommended by the paint supplier.

Technical Information and Material Availability

For specific technical advice, Material Safety Data Sheets (MSDS), or if you have any difficulty obtaining refinish materials, the paint suppliers can be contacted directly at the following numbers listed below.

Refinish Vendor	Technical Assistance Number
DuPont®	1-800-3DuPont
DuPont® Canada	1-800-668-6945
Spies Hecker	1-800-44-SPIES
Standox®	1-800-551-9296
PPG	1-800-647-6050
Glasurit®	1-800-201-1605
Sherwin-Williams	1-800-798-5872

I. DuPont® Procedure

1. Substrate

- Bare metal, sanded
- Galvanized metal, sanded
- Aluminum, sanded
- Through-hardened sanded paintwork

2. Pretreatment / Cleaning

DuPont First Klean 3900S
or DuPont Final Klean 3910S
or DuPont Low VOC Final Klean 3909S
or DuPont Pre-sol 3919S
or DuPont 3939S
or DuPont Kwik Clean 3949S
or any Sontara Pre-Saturated cleaner wipes

3. Etch Primer

- ChromaPremier 22860S Premier Etch Primer
- or ChromaPremier CF-22860S Premier Etch Primer

4. Primer Surfacer

- ChromaPremier 32430S 2K Premier Primer

5. Topcoat

- ChromaPremier Basecoat
  or
- Cromax Pro Basecoat
  with
- ChormaPremier Clear 72500S **+** 12.5% Plas-Stick 2350S Flexible Additive, then 2:1 with ChromaPremier 12303S Activator + 10% ChromaPremier 12375S Reducer.

II. Spies Hecker Procedure

1. Substrate

- Bare metal, sanded
- Galvanized metal,sanded
- Aluminum, sanded
- Through-hardened sanded paintwork

2. Pretreatment / Cleaning

- For substrate preparation information:

  Permaloid Silicone Remover 7799
  or
  Permaloid Silicone Remover 7010
  or
  Permaloid Silicone Remover 7080

3. Stopper

- Raderal IR Premium Putty 2035

4. Primer

- Priomat 1:1 Wash Primer 4075

5. Filler

- Permasolid HS Premium Surfacer 5310

6. Topcoat

- Permahyd Basecoat Series 280/285 with Permasolid HS Diamond Clear Coat 8450+10% Permasolid Elastic Additive 9050, 2:1 with Permasolid VHS Hardeners.
  or
- Permasolid HS Diamond Clear Coat 8030+15% Permasolid Elastic Additive 9050, 2:1 with Permasolid VHS Hardeners +15% Permacron Reducer.

III. Standox® Procedure

1. Substrate

   - Bare metal, sanded
   - Galvanized metal, sanded
   - Aluminum, sanded
   - Through-hardened sanded paintwork

2. Pretreatment / Cleaning

   For substrate preparation information:

   - Standox Silicone Remover or Standohyd Cleaner

3. Stopper

   - Standox PE Stopper
     or
   - Standox PE Fine Stopper
     or
   - Standox Spray Filler

   NOTE: For galvanized substrates use Standox PE Soft Stopper or Standox PE Rapid Stopper

4. Primer

   - Standox Etching Adhesion Primer.

5. Filler

   - Standox VOC System Filler

6. Topcoat

   - Standohyd Basecoat with Standocryl VOC Platinum Clear + 10% Standox 2K Plasticiser 2:1 with Standox VOC Hardeners.
     or
   - Standocryl 2K HS Clear + 15% Standox 2K Plasticiser 2:1 with Standox VOC Hardeners + 15% 2K Thinners.

IV. PPG Procedures

D8126 CeramiClear™ is a mar and scratch resistant, high solid clear coat. This new clear coat is especially designed for the repair of Infiniti vehicles that have Scratch Shield clear coat. D8126's excellent surface properties minimizes the visible scratches caused by car washing and polishing.

D8126 CeramiClearTM was formulated to meet all current VOC limits and is suitable for use in Southern California Districts. D8126 was designed for use over Envirobase® Basecoat color and BC Global Basecoat Color. D8126 CeramiClear™ uses D8226 Hardener. No thinner is required.

IV-1. Preparation of Substrate:

Wash all surfaces to be painted with soap and water, then apply the appropriate Global cleaner. See refinish bulletin EU134 Global cleaners for selection and usage instructions. Make sure the subtrate is thoroughly cleaned and dried before and after application.

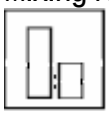
Wet sand with U.S. 500-600/European P800-1200 grade paper or dry sanding with U.S. 400-500/European P600-800 grade paper.

Wash off residue and dry thoroughly before re-cleaning with appropriate Global substrate cleaner. The use of a tack rag is recommended.

Apply Global BC Color or Envirobase Color over original baked finishes or over recommended Global Primers. See Data Sheet EU02 for Global Basecoat Color or EU130 Envirobase Color for application Details.

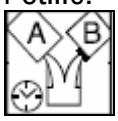
IV-2. Application Guide

Mixing Ratio:



D8126 CeramiClear™: 2 vols
D8226 Hardener: 1 vol

Potlife:



At 68^{O}F/20^{O}C 1 hour

Additives:

None

Spray gun set-up

Fluid Tip 1.3 – 1.5 mm or equivalent

Spray Viscosity 19 to 21 seconds #2 Zahn @ 68^{O}F (20^{O}C)

Spray pressure:

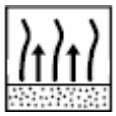
HVLP at air cap 10 PSI at the cap
Conventional at spray gun 45 - 55 PSI at the gun

Number of coats:

Apply 1 medium coat, then 1 full coat (2 coats total)

Film build per wet coat 2.1 - 3.1 mils
Dried film build per coat 1.0 - 1.5 mils

Flash off at 20^{0}C/68^{0}F:



Between coats 5 minutes
Before baking 0 - 5 minutes

Dust free:

68°F/20°C	30 minutes

Dry to handle:

68°F/20°C	4 hours minimum
140°F/60°C	30 minutes

Tape time:

68°F/20°C	5 - 6 hours
140°F/60°C	30 minutes plus cool down

Through dry:

68°F/20°C	8 hours
140°F/60°C	30 minutes plus 2 hours at room temperature

IR (Infrared):

Medium wave	15 minutes
Short wave	8 minutes

Polishing

After 24 hours at 70°F (21°C) D8126 Ceramiclear can be lightly de-nibbed with 2000 grit sandpaper and compounded.

Use a foam pad with a minor cutting compound to remove any minor imperfections.

All force dry times are quoted for metal temperature. Additional time must be allowed during force dry to allow the metal to reach recommended temperature.

NOTE: For best results, D8126 should be used for full panel repairs.

Overcoat/Recoat

Overcoat/Re-coat Time — 10 hours at 68°F(20°C) or after force dry/cool down plus 2 hours

Grade wet	U.S. 500 – 600/European P800 – 1200
Grade dry	U.S. 400 – 500/European P600 - 800

PPG recommend the following 3M™ products:

Remove dust:	DA sand with 3M™ 1500 grit to remove small imperfections DA sand with interface pad and 3M™ P3000 Trizact with water lubricant
Polishing:	Compound with 06060 Extra Cut Compound Followed by 06064 Swirl Mark Remover Followed by 0608 UltraFina SE

IV-3. Technical Data

Total dry film build:

- Minimum 2.0 mils
- Maximum 2.5 mils
- Recommended film build per wet coat 2.1 – 3.1 mils
- Recommended dried film build per coat 1.0 – 1.5 mils
- Theoretical coverage* 799 sq. ft. /US gal

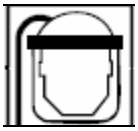
*Theoretical coverage in sq.ft./US gal. Ready-to-spray (RTS), giving 1 mils dry film thickness.

- Percent solids by volume RTS 49.79
- VOC Regulatory (less water less exempt) 2.00 lbs/gal (240 g/L)
- VOC Actual 1.40 lbs/gal (168 g/L)
- Density 8.96 lbs/gal (1074 g/L)
- Volatiles Weight % 47.9 %
- Water Weight % 0.0 %
- Exempt Weight % 33.3 %
- Water Volume % 0.0 %
- Exempt Volume % 30.4 %
- Solids Volume % 49.8 %
- Applicable Use Category Clear Coating

IV-4. Health and Safety

See Material Safety Data Sheet (MSDS, available from PPG) and Labels for additional safety information and handling instructions.

- The contents of this package may have to be blended with other components before the product can be used. Before opening the packages, be sure you understand the warning messages on the labels and MSDS's of all the components, since the mixture will have the hazards of all its parts.



- Improper handling and use, such as poor spray technique, inadequate engineering controls, and/or lack of proper Personal Protective Equipment (PPE), may result in hazardous conditions or injury.
- Follow spray equipment manufacturer's instructions to prevent personal injury or fire.

- Provide adequate ventilation for health and fire hazard control.
- Follow company policy, product MSDS and respirator manufacturer's recommendations for selection and proper use of respiratory protection. Be sure employees are adequately trained on the safe use of respirators per company and regulatory requirements.

- Wear appropriate PPE such as eye and skin protection. In the event of injury, see first aid procedures on MSDS.
- Always observe all applicable precautions and follow good safety and hygiene practices.

V. Glasurit® Procedures

V-1. Remark

- Edge to edge refinish is recommended
- When spot repair is carried out, use spot 80X as blending agent
- Conduct supplementary drying before polishing

  (Refer to "Spot Repair Method No.10")
- Please use instructed tool for polishing

V-2. Product Description.

90 Line Waterborne basecoat

- Very good hiding power, high efficiency
- Metallic and solid colour basecoat

923-45 Scratch Resistant 3.5 VOC HS Clear

- High solid
- Extremely scratch-resistant
- Outstanding weathering and yellowing resistance
- Excellent finish quality
- Quickly ready for polishing and masking

Refinishing systems

923-45

Nissan refinishing system

3.5 VOC Scratch Resistant Clear

National Rule Compliant

Cleaning	Glasurit® Wax and Silicone Remover 541-5	1x	Wipe dry	Sand damaged areas down to the bare metal	P16-P150	Glasurit® Wax and Silicone Remover 541-5	1x	Wipe dry		
Body filling + Fine stopping	Glasurit® Multi-Purpose Body Filler 839-20	Glasurit® Hardener Paste, red 948-36	+2-3%	20°C (68°F) 20-30 min.	3-5 min (50%) short wave	P80/P150 coarse sanding	P240/P320 fine sanding			
Cleaning	Glasurit® Wax and Silicone Remover 541-5	1x	Wipe dry							
Primer (bare metal areas only)	Glasurit® Etching Primer 283-155	Glasurit® Activator 352-228	Glasurit® Reducer 352-91	1:1 +30% mixing stick	HVLP 0.7 bar (6-10 psi) at the cap 1.3 mm	1	**10 min.** 20°C **(68°F)**	P800		
Filler	Glasurit® Universal Primer Filler 285-60	Glasurit® HS Hardener 929-51, -53	Glasurit® Reducer 352-50, -91, -216	4:1:1 mixing stick	HVLP 0.7 bar (6-10 psi) at the cap 1.9 mm	2	**30 min.** 60°C **(140°F)**	6 min. short wave	P800	P500
Cleaning	Glasurit® Wax and Silicone Remover 541-5	1x	Wipe dry	and/or (when using water-based paints)	Glasurit® Cleaner 700-1	1x	Wipe dry			

Refinishing systems

923-45

Nissan refinishing system

3.5 VOC Scratch Resistant Clear

National Rule Compliant

Basecoat Mixing system (solvent-borne) **55 Line**	**Glasurit® Reducer** 352-91 (to be weighed in first)	**Glasurit® Basecoat mixing bases** 55- M+A	**Glasurit® Basecoat Activator** 355-55	**Glasurit® Reducer** 352-50, -91, -216, -319	 acc. to mixing formula, then 2:1 + 10% with 352- mixing stick	 HVLP 0.7 bar (6-10 psi) at the cap 1.3 mm	 2 + ½	 approx. 10 min.

Or

Basecoat Mixing system (water-borne) **90 Line**	**Glasurit® Water-borne Mixing Base** 90-M4	**Glasurit® Basecoat mixing bases** 90-M+A	 acc. to mixing formula	**Glasurit® Adjusting Base** 93-E3	**Glasurit® Hardener** 270-2	 2:1 mixing stick	 HVLP 0.7 bar (6-10 psi) at the cap 1.3 mm	 2 +½	 Flash off until mat between spraycoats and before clear

Scratch-Resistant clear	**Glasurit® Anti-Scratch Clear** 923-45	**Glasurit® HS Hardener** 929-31, -33	**Glasurit® Reducer** 352-50, -91, -216	 2:1 + 10% mixing stick	 HVLP 0.7 bar (6-10 psi) at the cap 1.3 mm	 2	 **35 min.** 60°C **(140°F)**	 8 min. short wave

Technical Information

923-45

Glasurit® Scratch Resistant 3.5 VOC HS Clear

EC

Application: Extremely scratch-resistant HS clear 55-, 90-Line basecoat/clearcoat systems.

Properties: High solids content; extremely scratch-resistant; outstanding weathering and yellowing resistance; excellent finish quality; quickly ready for polishing and masking.

Remarks:
- The addition of the elastifier additive (Glasurit Elastifier Additive 522-111) will change the scratch resistance characteristics of this clearcoat. As such, Glasurit 923-45 is not recommended for use over flexible parts.
- Suitable for repairing extremely scratch-resistant original finishes.
- Select hardener and reducer according to ambient temperature and size of object to be painted.

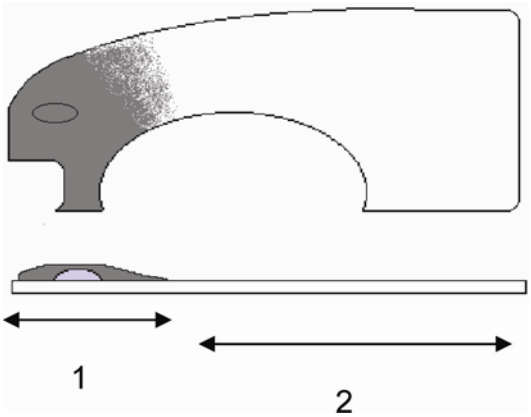
Paint System	B9
VOC ready for use	3.5 lbs/gal (420 gms/liter) max.
Mixing ratio **Hardener** **Reducer**	2:1 + 10% 100% by vol. 923-45 50% by vol 929-31 or -33 10% by vol. 352-50, -91 or -216
Spray viscosity DIN 4 at 68°F / 20°C	20 - 22 s
Potlife at 68°F / 20°C	1 hour
Gravity cup Spraying pressure	HVLP gun: 1.2 - 1.3 mm / 10 psi at the nozzle
Suction cup Spraying pressure	HVLP gun: 1.8 mm / 10 psi at the nozzle Conventional: 1.7 mm
Number of spray coats	2
Film thickness	2.0 - 2.4 mils
Flash-off at 68°F / 20°F	3 minutes between coats
Drying at 68°F / 20°C **at 140°F / 60°C** **Infrared short wave** **medium wave**	10 hours 35 minutes 8 minutes 10 - 15 minutes

Rev. 9/21/07

V-4. “Edge to Edge” for Clear Coat

Sanding

1. Sanding damaged part with P1000.
2. Sanding part on old clear coat with P2000 (attached with cushion pad).



Cleaning

3. Cleaning with Glasurit cleaner 700-1, dry with paper towel.

Basecoat (Water-borne)

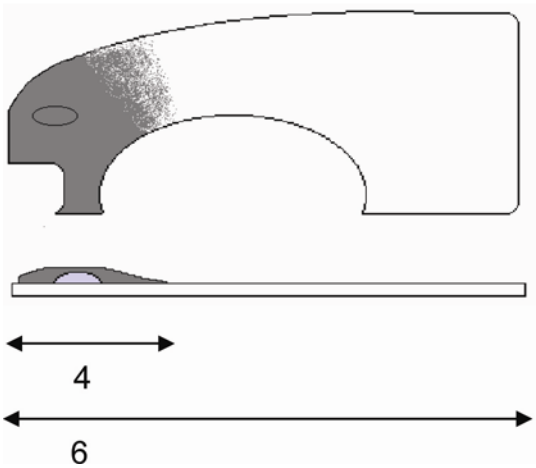
4. Spray 2+1/2 coat of Glasurit Water-borne 90 Line using HVLP spray gun.

5. Flash off until mat.

Scratch Resistant Clear

6. Spray 2 coats of Glasurit 923-45 with 50% hardener 929-33/31 and 10% 352 – 91/216 (Clear A)

7. Dry 60^{o}C (140^{o}F) for 30 minutes.



VI. Sherwin-Williams™ Procedure

VI-1. Product Description

ULTRA 7000® Scratch Resistant Clearcoat SRC2 is a premium quality, high solids, urethane clearcoat designed to deliver the maximum in appearance and productivity, and provides outstanding gloss hold out. SRC2 is low in VOC at 2.1 pounds per sprayable gallon, making it compliant for use in all VOC regulated areas.

VI-2. Surface Preparation

- SRC2 Scratch Resistant Clearcoat is designed for use over AWX™ and ULTRA 7000® basecoat colors, and properly prepared OE clearcoat in the case of blending.

- Allow basecoat color to flash 10-20 minutes (ULTRA 7000®) or minimum 10-20 minutes (AWX™) before applying clearcoat.

Preparation for Blending Panels

1. Clean with appropriate Sherwin-Williams surface cleaner and wipe dry with a clean cloth.

2. Blend panel should be sanded with P800 grit or finer paper, or scuff sand with a gray scuff pad and USP90 ULTRA SCUFFING PASTE and water. Rinse thoroughly and dry with a clean cloth.

3. Repeat step one, and then thoroughly tack surfaces to be painted with a clean tack cloth.

VI-3. Application Techniques

Wet-on-Wet/Limited Flash Application - Please consult your technical representative for training on the Wet-on-Wet, single application (limited flash) technique. This technique is preferred and enhances shop productivity once the technician has been trained. Desired film build is 2.0 – 2.5 mils (dry).

For Single or Two Panel Repair - Apply an even medium to light first coat to entire surface with a gun distance of 4 - 6 inches. Flash for 2 to 5 minutes before second coat.

For Multi-Panel Repair (3 or More Panels) - Follow first coat immediately with second coat. First coat should be even without missed areas but not heavy and wet. Flash time between coats is not necessary. Check for proper atomization.

To Blend Clearcoat Edge - Use BS10 Ure-Blend™ aerosol, or BS10 in second gun at low-pressure 20 – 25 psi conventional and 5 psi HVLP cap pressure. Apply only enough blending solvent necessary to melt blend edge.

BUFFING:

If buffing SRC2 is needed due to dirt:

1. Allow clearcoat to cure according to drying schedule before sanding and buffing.

   NOTE: Drying schedule is based on 50% relative humidity. Variances in film build, temperature, humidity and application may speed up or slow down the actual time that SRC2 is ready to buff.

2. Sand (wet or dry) with 1500 to 2000 grit sandpaper followed by wet sanding (cross-sanding) with 2500 to 3000 grit sandpaper, checking frequently to ensure that the 1500 – 2000 scratches are being removed.

3. Buff by machine with 3M SRC compound #05927 (or like quality) using a wool pad, followed by a foam pad.

VI-4. Regulatory Data

	As Packaged		As Applied	
	G/L	Lbs/Gal	G/L	Lbs/Gal
VOC Total	4763.2	3.95	485.5	4.05
VOC Less Exempt	117.6	0.98	224.7	2.04
	Lbs/Gal Solids	Lbs/Lbs Solids	Lbs/Gal solids	Lbs/Lbs Solids
HAPs	0.00	0.00	0.00	0.00
	Wt.%	Vol.%	Wt.%	Vol.%
Volatiles	45.4	48.0	47.1	51.4
Water	NA	NA	NA	NA
Exempt Compounds	NA	NA	NA	NA
	G/L	Lbs/Gal	G/L	Lbs/Gal
Density	1042.7	8.70	1030.2	8.60

SUITABLE SUBSTRATES

- OEM Topcoats
- Aged Refinishes
- Ultra 7000® Basecoat Colors
- AWX™ Basecoat Colors

MIXING

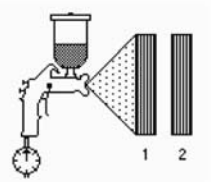
3	1	1
SRC2	UH20	R26, R28 US3-6 Reducers

Reducer Selection Chart

R26	50° F-75° F
R28	70° F-115° F
	-or-
US3	50° F-70° F
US4	70° F-90° F
US5	80° F-100° F
US5	100° F-115° F

APPLICATION

- Apply 2 wet coats using a limited flash, Wet-On-Wet application method, or allow each coat to flash handslick.
- 8-10 psi HVLP/ 45-50 psi Conventional gravity feed.
- See reverse for complete list of application techniques



Air dry	Out of Dust	35 – 45 minutes
	To Deliver	8 hours
Force Dry	20-30 minutes at 140º F surface temperature	
Buffing Times	Air Dry	4-5 hours
	Force Dry	30 minutes after cool down

NOTES

- Recoat basecoat color with SCR2.
- Recoat basecoat colors before 7 days or remove basecoat color.
- Do not add accelerator to this clearcoat.
- If fisheyes are a problem, add ½ ounce of V3K780 Fisheye eliminator

PERSONAL PROTECTION

- For use by trained professionals only.
- Read label, directions, and MSDS before use.
- Use appropriate Personal Protective Equipment while mixing and spraying.