

<b>Reference</b>	SSM36987
<b>Models</b>	LR2 / L359
<b>Title</b>	Freelander 2 / LR2 Front Grille Black Spot Repair Procedure
<b>Category</b>	Body
<b>Last modified</b>	04-Jan-2016 00:00:00
<b>Symptom</b>	106000 Paint/Finish
<b>Attachments</b>	<p>1Cleaners.pdf (1Cleaners.pdf)</p> <p>1D800.pdf (1D800.pdf)</p> <p>1Deltron Basecoat.pdf (1Deltron Basecoat.pdf)</p> <p>1Titan Silver.doc (1Titan Silver.doc)</p> <p>IMG_2720.JPG (IMG_2720.JPG)</p>
<b>Content</b>	<p>Should a vehicle have Black Spots identified on the Front Grille, please carry out the following repair procedure (See attachment "IMG_2720").</p> <p>Remove front Bumper from vehicle.</p> <p>Remove the Land Rover badge / decal</p> <p>Mask Front Bumper Grille leaving Silver area exposed.</p> <p><b>Preparation Cleaning</b></p> <p>Prepare area to be painted using Gold Scotch pad and clean using D8401 cleaner as per attached Cleaner.pdf</p> <p><b>Application of Basecoat</b></p> <p>Mix Titan Silver as per attached formulation. Apply colour in two stages as per attached Deltron Basecoat.pdf</p> <p><b>Application of Clearcoat Laquer</b></p> <p>Apply 2 coats of D800 matted to the 'matt' level. Use D841 hardener and D807 thinner as per D800.pdf</p> <p>Once dry, polish to finish and refit bumper to vehicle, fit Badge</p> <p><b>Note</b></p> <p>Du Pont materials may also be used but must meet the specification on attached files</p>

**Repair SRO**

79.HBC



January 2007

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# Product Information



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## DELTRON PREPARATORY CLEANERS

- D837 - DX330 Spirit Wipe*
- D845 - DX310 High Strength Degreaser*
- D846 - DX103 Antistatic Agent for Plastics*
- D8401 - Waterborne Low VOC Cleaner*

### PRODUCT DESCRIPTION

**D837 – DX330 Spirit Wipe** is a mild blend of solvents for removing light contamination on small areas of bare metals as a step in the preparatory process.

**D845 – DX310 High Strength Degreaser** is a strong blend of solvents, specifically designed to remove dirt, grease and other contaminants from bare metal as part of the preparation process.

**D846 – DX103 Antistatic Agent for Plastics** is a specially designed alcoholic blend of solvents formulated to treat plastic surfaces without damaging them.

If sprayed on the plastic part and left to evaporate, D846 becomes an anti-static agent.

**D8401 – Waterborne Low VOC Cleaner** is a waterborne pre-cleaner, suitable for use as an 'in process' cleaner.

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### APPLICATION

Apply generous quantities of Deltron Cleaner to a clean cloth.

Wipe surfaces to be cleaned before and after sanding.

Wipe surfaces in once direction only, to prevent smearing of contaminants.

After using, wipe off surplus cleaner with a clean dry cloth. Do not allow the product to dry on the surface which has been cleaned.

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## VOC INFORMATION

### **D8401 - Waterborne Low VOC Cleaner**

The EU limit value for this product (product category: IIB.a) in ready to use form is max. 200g/litre of VOC. The VOC content of this product in ready to use form is max. 200g/litre.

### **D837 - DX330 Spirit Wipe**

### **D845 - DX310 High Strength Degreaser**

### **D846 - DX193 Antistatic Agent for Plastics**

The EU limit value for these products (product category: IIB.a) in ready to use form is max. 850g/litre of VOC. The VOC content of these products in ready to use form is max. 850g/litre.

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## HEALTH AND SAFETY

**These products are for professional use only**, and are not to be used for purposes other than those specified. The information on this TDS is based on present scientific and technical knowledge, and it is the responsibility of the user to take all necessary steps in order to ensure the suitability of the product for the intended purpose. For Health and Safety information please refer to the material Safety Data Sheet, also available at: [http://www.ppg.com/PPG MSDS](http://www.ppg.com/PPG_MSDS)

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RLD63V  
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**AUTO REFINISH**

**GLOBAL  
REFINISH  
SYSTEM**



# Product information

## **Deltron D800**

*Clear*

### **PRODUCTS**

Deltron Clear	D800
Deltron Medium Solids Hardeners	D803, D841, D861
Deltron Standard Solids Hardener	D802
Deltron Thinners	D808, D807, D812, D869
Deltron DG Fade-out Thinner	D868

For matt, satin and textured finishes or painting of flexible substrates:

Deltron Matting Base	D759	to create a matt or satin appearance
Deltron Plasticiser	D814	to plasticise finishes over a flexible substrate
Deltron Matt Flexibiliser	D819	to create a matt or satin appearance over a flexible substrate
Deltron Texture Additive	D843	to create a fine textured 'suede' effect
Deltron Leather Grain Additive	D844	to create a coarser, more pronounced textured finish

### **PRODUCT DESCRIPTION**

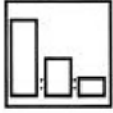
Deltron D800 is a high-performance two-pack acrylic urethane clearcoat designed for the repair and respray of cars and commercial vehicles as part of a basecoat/clearcoat repair process.

The performance of Deltron D800 in a recommended PPG repair system meets or exceeds motor manufacturer warranty requirements and the Deltron GRS system carries many OEM approval.

### **PREPARATION OF SUBSTRATE**

Deltron D800 Clear must be applied on top of a clean and dust-free Deltron GRS basecoat (the use of tack rag is recommended to remove dust from the basecoat film).

## PRODUCT SET-UP



Mixing ratio:

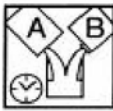
<i>Standard System</i>		<i>MS System</i>	
D800	2 vol	D800	3 vol
D802	1 vol	MS Hardener*	1 vol
Thinner**	*1 vol	Thinner**	1 vol

\* For high build, use 0.5 vol Thinner

\*\* Choose MS Hardener and Thinner according to application temperature:

<i>Temperature</i>	<i>MS Hardener</i>	<i>Thinner</i>
Up to 18°C	D803 Fast	D808
18°C - 25°C	D841 Medium	D807
Over 25°C	D861 Slow	D812

For exceptional conditions of temperature and humidity (> 35°C / >70%) the use of Very Slow Thinner D869 is recommended.



Potlife at 20°C:

6 - 8 hours

6 hours



Spray viscosity at 20°C:

15 seconds DIN4

17 - 18 seconds DIN4

## APPLICATION, FLASH-OFF AND DRYING



Spraygun set-up:

*Standard System*

1.4 - 1.8 mm

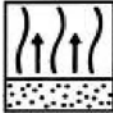
*MS System*

1.4 - 1.8 mm

Number of coats:

1 light , 1 medium, 1 full

1 medium, 1 full



Flash off at 20°C:

- Between coats
- Before stoving

10 minutes  
15 minutes

10 minutes  
10 - 15 minutes



Drying times:\*

- Dust free at 20°C
- Dry to handle at 20°C
- Through dry at 20°C
- Through dry at 60°C\*\*
- IR medium \*\*\*

20 minutes  
4 hours  
20 hours  
30 minutes  
10 -15 minutes

30 minutes  
4 hours  
20 hours  
30 minutes  
10 - 15 minutes



\* Drying times may be reduced still further by using the Deltron Accelerated System. Substitute D863 Accelerated Hardener for D802 and dust-free time reduces to 10 minutes. Stoving at 60°C takes 20 minutes. Potlife is 3 - 4 hours. Adding 10gms or 10 mls of D818 Accelerator per litre of ready-to-spray paint mixture improves dust-free times to 15 minutes (with D802) or 5 minutes (with D803). Using D863 and D818 together reduces dust-free time to 5 minutes and through drying at 60°C to 15 minutes. Potlife is 3 - 4 hours.

\*\* Stoving times are for quoted metal temperature. Additional time should be allowed in the stoving schedule to allow metal to reach recommended temperature.

\*\*\* Dependent on colour of basecoat; darker colours require less time.

## APPLICATION, FLASH-OFF AND DRYING

	<b>Standard System</b>	<b>MS System</b>
<i>Total dry film build:</i>		
- <i>Minimum</i>	Minimum 45 µm	Minimum 50 µm
- <i>Maximum</i>	Maximum 55 µm	Maximum 60 µm
<i>Theoretical coverage:</i>	assuming 100% transfer efficiency and dry film thickness as indicated:	
	5 - 6 m <sup>2</sup> /l	6 - 7 m <sup>2</sup> /l

## REPAIR AND RECOATING



*Sanding:* Essential before recoating to ensure good adhesion  
P800 (wet)  
P400 (dry)



*Overcoat / recoat time:*  
- Force dry 60°C or IR  
- Air dry at 20°C

After cooling  
Minimum 8 hours

*Overcoat/Repair with:* PPG 2K primers  
Deltron GRS topcoats  
Envirobase

## MATT, SATIN AND TEXTURED FINISHES PAINTING OF FLEXIBLE SUBSTRATES

To obtain a matt, semi-matt (satin) or textured finish with Deltron 800 Clear, it is necessary to include a suitable or matt, flex or texture additives in the mix. Additives are also required when applying D800 over a flexible substrate (typically plastics). The additives required and the appropriate volume and weight mix ratios are indicated in microfiches if relevant or in the tables below.

Note : **RIGID** substrates include all metals, fibreglass & GRP  
**FLEXIBLE** substrates are all plastic types except GRP

Substrate	Appearance	D800	D759	D843	D844	D814	D819	MS hardener	Deltron thinner
<b>RIGID</b>	Gloss	3 vol	-	-	-	-	-	1 vol	1 vol
	Satin	3 vol	1.5 vol	-	-	-	-	1.5 vol	1 vol
	Matt	3 vol	3 vol	-	-	-	-	1.5 vol	2 vol
	Matt Textured	3 vol	-	3 vol	-	-	-	1.5 vol	2 vol
	Leather Grain	3 vol	-	-	1.5 vol	-	-	1.5 vol	1 vol
<b>FLEXIBLE</b>	Gloss	3 vol	-	-	-	1 vol	-	2 vol	-
	Satin	4 vol	2 vol	-	-	-	2 vol	3.5 vol	0.5 vol
	Matt	4 vol	4 vol	-	-	-	2 vol	3.5 vol	1.5 vol
	Matt Textured	4 vol	-	4 vol	-	-	2 vol	3.5 vol	1.5 vol
	Leather Grain	4 vol	-	-	2 vol	-	2 vol	3.5 vol	0.5 vol

## SPOT REPAIR PROCEDURE

- Apply Deltron D800 Clear according to the 'Application, Flash-Off and Drying' section above.
- Leave to flash-off for 10 minutes/20°C after the 2<sup>nd</sup> coat.
- A suitable quantity of activated and thinned D800 Clear should then be reduced with Deltron DG Fade-Out Thinner D868 at a ratio of 1:3 (1 part activated and thinned Clear to 3 parts D868).
- Apply this 1:3 mix over the repair area, using a reduced gun pressure to minimise overspray. Spray from the outside of the repair inwards, covering an area that extends beyond the edge of the initial application.
- After force dry or IR, buff the repair edges.



## POLISHING

*Low bake or IR force  
drying:*

*Air drying at 20°C:*

Minimum 1 hour after cooling

Minimum 20 hours after application

## EQUIPMENT CLEANING

After use, clean all equipment thoroughly with cleaning solvent or thinner.



## HEALTH AND SAFETY

For comprehensive Health, Safety and Environmental advice, please refer to the relevant Material Safety Data Sheets and product can labels.  
Use the recommended safety equipment.

### **THIS PRODUCT IS FOR PROFESSIONAL USE ONLY.**

The information given in this sheet is for guidance only. Any person using the product without first making further enquiries as to the suitability of the product for the intended purpose does so at his own risk and we can accept no liability for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of such use. The information contained in this sheet is liable to modification from time to time in the light of experience and our policy of continuous product development.

Drying times quoted are average times at 20°C. Film thickness, humidity and shop temperature can all affect drying times.



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**AUTO REFINISH**

GLOBAL  
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# Product information

## **Deltron BC**

*Basecoat colour*

### **PRODUCTS**

Deltron Base Coat Tinters	D7xx,D9xx
Deltron Thinners	D808,D807, D812, D869
Deltron BC Fade-out Thinner	D851
Deltron MS Hardener	D841

For matt, satin and textured finishes

Deltron Texture Additive	D843 to create a fine textured 'suede' effect
Deltron Leather Grain Additive	D844 to create a coarser, more pronounced textured finish

### **PRODUCT DESCRIPTION**

The Deltron BC system consists of high opacity solid , metallic and mica colours. Used in conjunction with a recommended PPG repair system, Deltron BC meets or exceeds the performance requirements of motor manufacturer paint system warranties. As part of the Deltron Global Refinish System, Deltron BC carries a large number of OEM approvals.

### **PREPARATION OF SUBSTRATE**



#### **Substrate**

PPG 2K primers  
Electropaint  
Sound 2K finishes  
TPA

#### **Preparation**

P600 - P800 (wet) / P400 - P500 (dry)  
P600 - P800 (wet) / P400 - P500 (dry)  
P600 - P800 (wet) / P400 - P500 (dry)  
Must be sealed (e.g. D834)



Before and after any sanding operation, the substrate must be thoroughly degreased.

## PRODUCT SET-UP

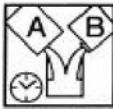


Mixing ratio: Deltron BC \* 1 vol  
Thinner \*\* 1 vol

\* See 'Performance and Limitations' for use with D841 MS Hardener

\*\* Choose thinner according to application temperature

Temperature	BC Solid Colour	BC Metallic/Mica Colour
Up to 18°C	D808	D808
18°C - 25°C	D808	D807
25°C - 35°C	D807	D812
Above 35°C	D812	D869



Potlife: No limit



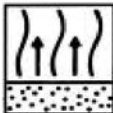
Spray viscosity at 20°C: 15 seconds DIN4

## APPLICATION, FLASH-OFF AND DRYING

Spraygun set-up: 1.4 - 1.6 mm



Number of coats: 2  
(+1 control coat for metallic and micas)



Flash-off at 20°C:  
- between coats 10 minutes  
- before clearcoat 15 minutes

Taping time: 15 minutes

Total dry film build: 10 - 25 µm

Theoretical coverage: assuming 100% transfer efficiency and dry film thickness as indicated:  
3.5 - 7 m<sup>2</sup>/l

## REPAIR AND RECOATING



### *Sanding:*

If necessary, de-nib Deltron BC, after 20 minutes flash-off, using fine sand paper (P1200 - P1500) followed by a touch-up repair (see section on Fade-Out Technique) prior to the clearcoat application.

### *Overcoat / Re-coat time at 20°C:*

- |                         |   |
|-------------------------|---|
| - <i>Minimum</i>        | 15 minutes  |
| - <i>Maximum</i>        | 24 hours  |
| - <i>After 24 hours</i> | 1 Coat of Deltron BC has to be applied prior to clearcoat application |

### *Overcoat with:*

Deltron Clearcoats

## FADE-OUT TECHNIQUE

Fading out Deltron BC is necessary for spot repair and advisable when metallic or mica colours have to be repaired. Use D851 BC Fade-out Thinner as follows :

- Prepare Deltron BC colour as specified in this data sheet
- Using light inward strokes, achieve coverage on the repaired area
- Thin 1 part of the ready-for-use Deltron BC with 1 part D851 Deltron Fade-out Thinner
- Use this mixture to fade the repair edges spraying from the outside to the inside of the repair area
- Repeat the last step until the potential colour difference has been lost
- Allow 20 minutes flash-off before clearcoating

## PERFORMANCE AND LIMITATIONS



For optimum durability and adhesion BC may be mixed 10:1 with D841 MS Hardener, and then thinned 1:1 with GRS Thinner prior to application. Potlife of the activated basecoat is in excess of 48 hours. Application and drying properties are unchanged.

## EQUIPMENT CLEANING

After use, clean all equipment thoroughly with cleaning solvent or thinner.

## HEALTH AND SAFETY



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L359 Bumper Grille Titan Silver

Paint Formulation for PPG Deltron

LRR.MWN : PRIME : DN BCM : 07- : Trim : TITAN : MWN : LAND & RANGE  
ROVER : MMF Brand Reference: LRR.MWN Finish Effect: Metallic  
Category: Respray/Overall Use

Grey Undercoat: G5

Price Code:

Revision Date: 8/28/2003

Code	Description	Cum.
825	2K TINT. SURFACER	1,277.30
500	WHITE	1,490.20
501	BLUE BLACK	1,507.70
525	TRACE FAST BLUE	1,515.30
508	YELLOW OXIDE	1,520.60
529	RED OXIDE	1,525.90

Solid Content (g): 1025.8

Solvent Content (g): 500.1

Main Layer: LRR.MWN/1

Price Code:

Revision Date: 11/27/2007

Code	Description	Cum.
946	EXTRA FINE LENT.ALU	919.90
789	JET BLACK	938.70

Use undercoat G5 for maximum hiding

Solid Content (g): 226.1

Solvent Content (g): 712.6

Matted Clearcoat: LRR.MWN/2

Price Code:

Revision Date: 11/27/2007

Code	Description	Cum.
800	CLEAR	690.20
759	MATTING BASE	986.00

Solid Content (g): 410

Solvent Content (g): 576

