



GLOBAL REFINISH
SYSTEM



April 2010

Product Information



Deltron Progress UHS DG

Ultra-High Solids Direct Gloss Colour

PRODUCTS

Deltron Progress UHS DG Tinters	D60xx
Deltron UHS Hardeners	D8216, D8217, D8218, D8219
Deltron Additive Thinners	D8701, D8702

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

Deltron Matting Base	D8456 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/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 Progress UHS DG is a high opacity, ultra high solids topcoat material suitable for all types of repair. It reproduces existing paintwork finished in a direct gloss solid colour.

By appropriate choice of Hardener and thinner, the Deltron Progress UHS DG colour system offers a full range of processing options, from a 10 minute at 60°C metal temperature, bake system, to enable fast processing of small repairs, to a standard 30 minutes at 60°C metal temperature, bake system, suitable for all types of repair.

Deltron Progress UHS DG has an organic solvent content considerably lower than conventional direct gloss materials. This makes it particularly suitable when operating in areas where VOC emissions or product VOC content is restricted.

The Deltron Progress UHS DG system is also completely Lead Free.

PREPARATION OF SUBSTRATE



Apply over original stoved finishes or PPG 2K primers:

* See 'Performance and Limitations' section.

Degrease all surfaces to be painted with appropriate PPG substrate cleaner before wet sanding with P600-800 grade paper or dry sanding with P360-400 grade paper.



Wash off residues and dry thoroughly before re-cleaning with appropriate PPG substrate cleaner. See Technical Data Sheet **Deltron Cleaners RLD63V**.
The use of a tack rag is recommended.

MIXING RATIO

Mix colour thoroughly, for at least 2 minutes, before adding hardener and thinner. Weight mixing is the most accurate method of producing "ready for use" material. However, where volume mixing is necessary use the ratio below:

Mixing Ratio with UHS Hardener:

	<u>By Volume</u>
Deltron Progress UHS	2 vol
UHS Hardener*	1 vol
Additive Thinner*	0.6 – 0.7 vol.

- 0.7 volume parts of thinner are recommended for optimum flow and appearance on horizontal areas.
- Choose UHS Hardener and Additive Thinner according to application temperature, and drying needs.
- As with all ultra high solids products, cold ready for use paint temperatures can lead to more difficult application and overspray absorption. It is strongly recommended that ready for use product is applied at a temperature greater than 15°C

HARDENER AND THINNER SELECTION

<u>System</u>	<u>UHS Hardener</u>	<u>Additive Thinner</u>	<u>Bake Schedule</u>
Express	D8216	D8701 / 8702	20 mins at 50°C / 10 mins at 60°C
Fast	D8217	D8701 / 8702	40 mins at 50°C / 20 mins at 60°C
Medium	D8218	D8701 / 8702	60 mins at 50°C / 30 mins at 60°C
Slow - For high temperatures	D8219	D8701 / 8702	70 mins at 50°C / 35 mins at 60°C

The choice of additive thinner should be made according to application temperature, air movement and size of repair. The following temperature ranges should be used for guidance only. D8701 - up to 30°C, D8702 - over 30°C.

MIXED PRODUCT DETAILS

<i>Potlife</i>	Using D8216	15 - 20 minutes
	Using D8217	40 - 60 minutes
	Using D8218 / 9	1.5 - 2 hours

Spray viscosity: 20 - 25 seconds DIN4 at 20°C



APPLICATION AND FLASH OFF



Spraygun set-up:

Compliant Spraygun 1.3 - 1.6 mm

Conventional Two Coat Process

Application

Apply 2 single coats to give ~60 microns dry film build.

Flash off between spray coats

5 minutes

Flash off before bake or IR dry

None required before baking; 5 minutes before IR drying.

Express Single Visit Process

Application

Apply 1 medium & 1 full coat to give 50-60 microns dry film build.

The first coat should be applied to all repair panels before the second coat is applied.

Flash off between spray coats

For less than 3 panels, 2-3 minutes flash.

For more than 3 panels, no flash off is required.

Flash off before bake or IR dry

None required before baking; 5 minutes before IR drying.

DRYING TIMES



*Drying times: ***

- *Through dry at 20°C*

12 hours with D8216, 16 hours with D8217

Not recommended with D8218 / 9

- *Through dry at 60°C*

10 minutes - D8216, 20 minutes - D8217

30 minutes - D8218, 35 minutes - D8219

- *Through dry at IR Medium*

6 - 8 minutes - Medium wave
(IR drying is colour dependant)



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

Total dry film build:

50 - 70 µm

Theoretical coverage:

8-9 m²/l

Assuming 100% transfer efficiency and dry film thickness as indicated.

REPAIR AND RECOATING



Sanding:

Essential before recoating to ensure good adhesion

P400 (dry)

P800 (wet)

Overcoat / recoat time:

- *Force dry 60°C or IR*

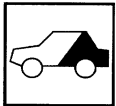
1 hour after cooling

- *Air-dry at 20°C*

Minimum 24 hours

Overcoat with:

PPG 2K Primers, Envirobase, Deltron GRS Topcoats



MATT, SATIN AND TEXTURED FINISHES PAINTING OF FLEXIBLE SUBSTRATES

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

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

Spray pressure should be increased by 10% to obtain an even aspect on big surfaces when texture additives are used.

Mixing – Volume ratios

Substrate	Appearance	Deltron UHS Colour	D8456	D843	D844	D819	D814	UHS Hardener	Additive Thinner
RIGID	Gloss	2 vol						1 vol	0.6 - 0.7 vol
	Satin	2 vol	2 vol					1 vol	1 vol
	Matt	1.5 vol	2.5 vol					1 vol	1 vol
	Matt Textured	2 vol	1 vol	3 vol				1 vol	2 vol
	Leather Grain	2 vol	1 vol		1.5 vol			1 vol	1 vol

Mixing – Volume ratios

Substrate	Appearance	Deltron UHS Colour	D8456	D843	D844	D819	D814	UHS Hardener	Additive Thinner
FLEXIBLE	Gloss	2 vol					0.5 vol	1 vol	0.4 vol
	Satin	2 vol	2 vol			0.5 vol		1 vol	0.6 vol
	Matt	1.5 vol	2.5 vol			0.5 vol		1 vol	0.6 vol
	Matt Textured	2 vol	1 vol	2 vol		0.5 vol		1 vol	2 vol
	Leather Grain	2 vol	1 vol		1 vol	0.5 vol		1 vol	1 vol



POLISHING



If polishing is required, i.e. to remove dirt nibs, it is recommended that it is carried out between 1 hour and 24 hours after the quoted drying time. Use PPG Specialty Polishing system SPP1001.

FADE - OUT REPAIR PROCEDURE

- Apply Deltron Progress UHS DG according to the information above
- Apply D8141 Clearcoat over edge of repair.
- Melt overspray edge using D8730 Aerosol Fade-Out Thinner or D8429 Rapid Blender.
- For further details refer to datasheet No: RLD 199V for successful repair.

PERFORMANCE AND LIMITATIONS

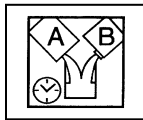


Do NOT use Deltron Additives - D885, D886 or D818 with Deltron Progress UHS DG topcoats.

EQUIPMENT CLEANING

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





Mixing by volume -

Weight mixing is the most accurate method of producing "ready for use" material. However, where volume mixing is necessary:

With UHS Hardener - 2 : 1 : 0.6 **or** 2 : 1 : 0.7

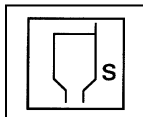
Pot Life at 20°C	Using D8216	15 -20 minutes
	Using D8217	40 - 60 minutes
	Using D8218/9	1.5 - 2 hours

Hardener / Thinner Selection

To bake 10 minutes at 60°C D8216 UHS Hardener
D8701 - Fast Additive thinner

To bake 20 minutes at 60°C D8217 UHS Hardener
D8701/2 - Additive thinner

To bake 30 minutes at 60°C D8218/9 UHS Hardeners
D8702 - Additive thinner



Application viscosity 20 - 25 seconds DIN4 at 20°C



Spraygun Size 1.3 - 1.4 mm fluid tip



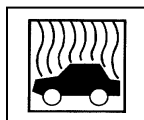
Number of Coats

Express System - 1 light/medium coat followed by 1 full coat.
The first coat should be applied to all repair panels before the second is applied.
No flash between coats required for 3+ panels; 2-3min flash for less than 3 panels. No flash before bake, 5 min for IR drying.

Conventional System -2 single coats, 5 minutes flash between coats. No flash before bake, 5 min for IR drying.

Drying Times

Through dry at 20°C -	12 hours with D8216, 16 hours with D8217
Through dry at 50°C -	20 minutes with D8216, 40 minutes with D8217, 60 minutes with D8218, 70 minutes with D8219



Through dry at 60°C - 10 minutes with D8216, 20 minutes with D8217,
30 minutes with D8218, 35 minutes with D8219

DELTRON PROGRESS UHS DG WEIGHT MIXING CHART

The weight of the hardener and thinner required by certain volumes of mixed colour to produce ready-for-use paint is detailed below. The weights correspond to the mixing ratio: 2 parts Progress UHS DG colour: 1 part D8216/7/8/9 hardener: and the option of 0.6 parts or 0.7 parts D8701/2 thinner.

Stir colour thoroughly before adding hardeners and thinners.

'TARE' the scale after mixing or measuring out the colour. The weights of hardener and thinner are **CUMULATIVE** – DO NOT TARE THE SCALE BETWEEN ADDITIONS.

Volume of UHS DG colour mix	Final ready-for-use volume (@ 2/1/0.6 ratio)		Weight of D8216/7/8/9 UHS Hardener	Weight of D8701/ D8702 Additive Thinner	
				Grams to 0.6 parts	Grams to 0.7 parts
Litres	Litres		Grams		
0.10	0.18		53.3	79.1	83.4
0.20	0.36	T	106.6	158.3	166.9
0.25	0.45	A	133.2	197.8	208.6
0.30	0.54	R	159.9	237.4	250.3
0.40	0.72	E	213.2	316.5	333.7
0.50	0.90		266.5	395.7	417.2
0.60	1.08	S	319.8	474.8	500.6
0.70	1.26	C	373.1	553.9	584.0
0.75	1.35	A	399.7	593.5	625.8
0.80	1.44	L	426.4	633.0	667.5
0.90	1.62	E	479.7	712.2	750.9
1.00	1.80		533.0	791.3	834.4
1.50	2.70		799.5	1187.0	1251.5



BEST PRACTICES WITH UHS PRODUCTS

Paint storage conditions

Keep ready for use paint in good conditions to ensure correct viscosity.

RFU temperature above a minimum of 15°C and ideally over 18°C.
This includes paint, hardeners and thinners.

Mixing and making ready for use

Activate accurately, and by weight where ever possible.

Where mixing must be by volume, only use a round and parallel sided mixing container together with the correct mixing stick. If using a measuring container marked in percentages, you must be sure that the percentages give the correct quantities.

Make sure that Hardener and Thinner is mixed in well. High solids or high viscosity products can take a little longer to mix in, so a good practice is to stir Hardener in first, then add thinner before stirring again.

Use mixed product as quickly as possible.

Choose the correct Hardener for the required bake cycle.

Keep to the recommended levels of additives.
Do not exceed the recommended level of additives such as Flexibilisers.

Application technique, process and equipment choices

Use correct spraygun set ups, and set up the spraygun correctly.

Use a "Single Visit" application wherever possible, following the advice given in the application section.

Check that the spraybooth is operating effectively. If necessary make an oven check to be sure that metal temperature is reached, especially on low down repair areas.

PPG recommendations are based on time at metal temperature, so this should be allowed for in the bake cycle that is set for the job.



VOC INFORMATION

The EU limit value for this product (product category: IIB.d) in ready to use form is max. 420g/litre of VOC. The VOC content of this product in ready to use form is max. 420g/litre.

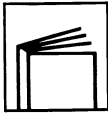
Depending on the chosen mode of use, the actual ready to use VOC of this product may be lower than that specified by the EU Directive code.

Note:

Combinations of this product with D8456, D814, D819, D843 or D844 will produce a paint film with special properties as defined by the EU Directive code.

In these specific combinations: The EU limit value for this product (product category: IIB.e) in ready to use form is max. 840g/litre of VOC. The VOC content of this product in ready to use form is max. 840g/litre.

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: www.ppgrefinish.com

PPG Industries (UK) Limited.
Auto Refinish
Customer Service and Sales Group,
Needham Road,
Stowmarket,
Suffolk.
IP14 2AD,
England.
Tel: 01449 771775
Fax: 01449 773480

