

ULTRAPRIME

Description

Ultraprime has been developed for use as a primer for use in conjunction with Ultracrete, Ultrascreed and Ultracoat. The product exhibits outstanding adhesion to concrete and other surfaces, and has excellent chemical resistance in its own right. The Ultraprime is supplied as a two pack system, comprising pre-weighed amounts of BASE and CURING AGENT components.

Typical Uses

As a primer for concrete prior to the application of Ultracrete, Ultrascreed or Ultracoat.
As a protective treatment to exposed steel re- reinforcement or concrete, especially in aggressive chemical environments.

Advantages

- Low temperature cure
- Solvent free, low odour
- Excellent adhesion to concrete and steel
- Impervious to water
- Low viscosity, easily applied
- May be applied to cool surfaces
- Pre-packaged units ready for use
- Exceptional chemical resistance

Typical Properties

Appearance: Amber coloured liquid of low odour

Viscosity: 1400 cps @ 20C

Pot life @ 20C: 25 minutes

Pot life @ 10C: 50 minutes

Coverage: 3.5 to 7.0 Sq.m./Kg (depending on surface profile)

Adhesive strength to concrete: 3.8N/Sq.mm. (concrete failure)

PROCEDURE

Surface Preparation

a) Concrete surfaces shall be a minimum of 21 days old and/or the residual moisture content shall be below 6%. Ensure that the concrete is clean and free from dust, laitance, grease, oil, curing compound, existing paint finishes, etc. Suitable mechanical treatment such as vacuum grit blasting or mechanical scabbling are recommended to ensure the removal of contaminants and to provide a mechanical key for the Ultraprime.

b) Steel reinforcement shall be abraded, wire-brushed etc. to remove all traces of rust. Priming should immediately follow preparation to obviate the possibility of flash rusting.

Paco systems

Broadridge Close

Newton Abbot

Devon TQ12 1YE

Tel: 01626 207064

Fax: 08712 424345

www.paco-systems.co.uk

info@paco-systems.co.uk

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2) Mixing

Pour the contents of the CURING AGENT container into BASE container and thoroughly mix, preferably by mechanical means until a uniform colour and appearance is achieved.

3) Application

Apply by brush, roller or airless spray to the prepared surface at a nominal rate of 0.15 to 0.30 Kg/Sq.m..

Ensure that the surface is thoroughly wetted out.

Allow the primer to tack up for a minimum of 10 minutes prior to the application of subsequent treatments.

Please refer to the Ultracrete Ultrascreed or Ultracoat product data sheet, as appropriate. Note: in thin section the primer will remain open for 90 minutes @ 20C, within which time subsequent application should be carried out. Should this period be exceeded then the surface must be re-primed prior to continuing.

4) Equipment Cleaning

Clean all equipment with Toolclean, prior to curing of the resin.

5) Curing

Touch dry after 2 hours @ 20C;

Hard dry after 5 hours @ 20C

6) Packaging

Ultraprime is supplied in 1Kg, 2Kg and 5Kg packs.

7) Coverage

3.5-7.0 Sq.m./Kg depending on surface texture.

8) Storage and Shelf Life

Store in dry conditions at temperatures between 10C and 25C. Do not expose to freezing conditions. Minimum of 12 months shelf life when stored in original, unopened containers in accordance with manufacturers instructions.

9) Limitations

Do not apply to wet or uncured concrete surfaces.

Do not apply at temperatures of 2C or less.

10) Health and Safety

Avoid contact with skin and eyes. Please refer to Material Safety Data Sheet for additional information.

Ultraprime shall be applied strictly in accordance with the manufacturers instructions.

For specific advice regarding any aspect of this product, please consult our Technical Section.

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ULTRACOAT

Description

Ultracoat is a rapid curing, two pack Epoxy coating with outstanding resistance to aggressive acids, solvents and alcohols e.g. 96% Sulphuric acid, Methyl Ethyl Ketone, and Methanol.

Typical Uses

As an internal lining for concrete or steel storage tanks; Chemical bunds; Chemical resistant floor/wall coating for chemical and printing works, bottling and canning factories, pharmaceutical production, etc.

Advantages

- ü Outstanding chemical resistance
- ü Very rapid cure, even at low temperatures
- ü Excellent adhesion to steel and concrete
- ü Tough, durable and abrasion resistant
- ü Hygienic and easily cleaned
- ü Slip resistant options available

Typical Properties

Colour: Grey, Red, as standard (any BS4800 colour can be supplied upon request)

Pot life @ 20°C: 30 minutes

Pot life @ 10°C: 60 minutes

Curing Times

Tack free time @ 20C: 4 hours

Hard dry time @ 20C: 8 hours

Full chemical resistance @ 20C: 5 days

Adhesive strength to concrete: 4.1N/Sq.m (concrete failure)

Adhesive strength to Sa 2.5 steel: 14N/Sq.m.

Temperature range during application: 2°C to 35°C
in service: -20°C to 70°C

Chemical Resistance Guide (available upon request), or consult our Technical Section for specific advice.

PROCEDURE

1. Surface preparation

a) concrete shall be a minimum of 21 days old and/or the residual moisture content shall be below 6%. Ensure that the concrete is clean and free from dust, laitance, oil, curing compound, existing paint finishes, etc. Blow holes and defective concrete shall be made good using a proprietary repair compound e.g. Floorpatch or Surfacer.

Suitable mechanical treatment, such as vacuum grit-blasting, is the preferred treatment prior to application, as this ensures a mechanical “key” for the coating.

b) Steel surfaces shall be shot blasted or grit blasted to a nominal Sa 2.5 Swedish standard. All dust and grease shall be removed prior to coating application.

If a delay is likely to occur between blasting and application then it is recommended that a coat of Steelprime be applied as holding primer to obviate flash rusting.

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2. Priming

A coat of WB Primer is recommended on absorbent concrete surfaces. Apply in accordance with WB Primer product data sheet. See 1b. above with reference to steel substrates.

3. Mixing

Pour the contents of the CURING AGENT tin into the BASE container and thoroughly mix, preferably by mechanical means until a uniform colour is achieved.

4. Application

Apply by brush, short piled roller or airless spray at a nominal rate of 0.3 - 0.5 Kg/Sq.m. per coat, depending on overall dry film thickness required.

After a minimum of 10 hours @ 20C, apply a second coat at the same nominal rate.

Should a slip resistant finish be required, then a broadcast of graded Silica Sand, Basalt, or Silicon Carbide shall be made immediately after the first coat.

Brush off excess aggregate prior to application of the second coat.

5. Equipment Cleaning.

Clean equipment with Toolclean prior to curing of the coating.

6. Curing

Allow to cure for a minimum of 12 hours @ 20C prior to light foot trafficking, and 24 hours @ 20C prior to vehicular trafficking.

Allow a minimum of 5 days cure @ 20C for optimum chemical resistance.

7. Packaging

Ultracoat is supplied in 5 Kg and 15Kg packs.

8. Coverage

A 5Kg pack is sufficient to coat 8.3 Sq.m. of surface with the recommended two coat treatment, providing a typical dry film thickness of 500 microns.

9. Storage and Shelf Life

Store in dry conditions at temperatures between 10°C and 25°C. Do not expose to freezing conditions.

Ultracoat has a minimum of 12 months shelf life when stored in accordance with manufacturers instructions.

10. Limitations

Do not apply to wet or uncured concrete surfaces. Do not apply at temperatures of 2°C or less.

Discolouration/bleaching of the coating can occur on contact with certain aggressive chemicals, thus leading to contamination/discolouration of the chemical itself

11. Health and Safety

Wear gloves and goggles.

Wash off splashes immediately with soap and water.

Please refer to Material Safety Data Sheet for additional information.

Ultracoat shall be applied strictly in accordance with the manufacturers instructions.

ULTRACRETE

Description

Ultracrete is a rapid curing, resin rich, three pack Epoxy Screed with exceptional resistance to aggressive acids, solvents and alcohols e.g. 96% Sulphuric acid, Methyl Ethyl Ketone, and Methanol. Ultracrete is typically applied at thicknesses of between 4mm and 9mm depending upon service conditions and performance requirements. Greater thicknesses may be applied in conditions of exceptional severity (in terms of aggressive chemicals and temperature).

Ultracrete is usually applied in conjunction with a separate primer, Tackprimer Ultra.

Typical uses

Chemical bund linings .

Heavy duty, chemical resistant flooring e.g. chemical and printing works, dye-works, pharmaceutical production, etc.

Advantages

- * Outstanding chemical resistance
- * Tough, durable, non-slip finish
- * Abrasion and impact resistant
- * Very rapid cure even at low temperatures

Typical Properties

Colour: Grey, Red
Pot life @ 20C 35 minutes
Pot life @ 10C: 65 minutes
Walk on time @ 20C: 6 hours
Full traffic time @ 10C: 14 hours
Full chemical resistance: 4 days @ 20C
Temperature range during application: 2C to 35C
Temperature range during service: -20C to 80C
Compressive strength: 75N/Sq.m.
Chemical resistance guide: available on request.

PROCEDURE

1. Surface Preparation

a) Concrete shall be a minimum of 21 days old and/or the residual moisture content shall be below 6%.

Ensure that the concrete is clean and free from dust, laitance, grease, oil, curing compound, existing paint finishes, etc. Blow holes and defective concrete shall be made good using a proprietary repair compound e.g. Floorpatch or EPA Epoxy Mortars.

Suitable mechanical treatment, such as vacuum grit-blasting, is the preferred treatment prior to application, as this ensures a mechanical "key" for the coating.

b) Steel surfaces shall be shot blasted or grit blasted to a nominal Sa 2.5 Swedish standard. All dust and grease shall be removed prior to coating application.

If a delay is likely to occur between blasting and application then it is recommended that a coat of Steelprime shall be applied as holding primer to obviate flash rusting.

2. Priming

Apply a coat of Tackprimer Ultra at a nominal rate of 0.25Kg /Sq.m. and broadcast a fine Silica Sand at a nominal rate of 1 Kg/Sq.m..

Allow to cure for a minimum of 4 hours @ 20C or up to a maximum of 24 hours @ 20C.

Sweep off excess sand prior to application of Ultracrete.

3. Mixing

Ultracrete is supplied as a three pack material consisting of the resin BASE component, the CURING agent component and the AGGREGATE component.

The contents of the CURING AGENT container should be emptied into the BASE component, and the two liquids mixed thoroughly, preferably by mechanical means.

The mixed BASE and CURING AGENT components should then be poured into a mixing vessel e.g. Creteangle type, and the AGGREGATE added whilst stirring, mixing thoroughly for 2 - 3 minutes.

4. Application

Apply the mixed material using screeding bars or screed box, ensuring good compaction , and finish with stainless steel or chemical resistant- plastic float.

NOTE: See limitations.

5. Equipment Cleaning

Clean all equipment immediately after use, with Toolclean.

6. Curing

Ultracrete should be allowed to cure for a minimum of 6 hours @ 20C prior to light foot trafficking, and for a minimum of 14 hours @ 20C prior to full trafficking.

Allow a minimum cure period of 96 hours @ 20C prior to exposure to chemicals.

Curing will be slower at lower temperatures and faster at higher temperatures.

7. Packaging.

Ultracrete is supplied in 25Kg packs.

8. Coverage

2.0 Sq.m. per pack @ 6mm thickness;

3.0 Sq.m. per pack @ 4mm thickness.

9. Storage and Shelf Life

Store in dry conditions at temperatures between 10C and 25C.

Ultracrete has a minimum shelf life of 12 months when stored in original, unopened containers in accordance with the manufacturers instructions.

10. Limitations

Do not apply to wet, uncured, or contaminated surfaces.

Do not apply at temperatures below 2C

Ultracrete is primarily a functional product, and slight residual trowel marks may remain in the finished surface.

Discolouration/bleaching of the screed can occur on contact with certain aggressive chemicals, thus leading to contamination/discolouration of the chemical itself.

11. Health and Safety.

Avoid contact of uncured materials with the skin and eyes.

Wear appropriate protective clothing during handling and application. Refer to Material Safety Data Sheet for full information.

Ultracrete shall be applied strictly in accordance with the manufacturers instructions.

Chemical Resistance Guide **Re: Ultracoat and Ultracrete**

All test were carried out at 20C (+/- 5), based on specimens having a minimum dry film thickness of 400 microns, and having been cured for a minimum period of 7 days @20C.

- E- Denotes excellent chemical resistance on long term immersion basis (typically 5 - 10 years)
- VG- Denotes very good chemical resistance on a continuous immersion basis (typically 2 - 5 years)
- G- Denotes good chemical resistance on a continuous immersion basis (typically 1 - 2 years)
- M- Denotes moderate chemical resistance on a continuous immersion basis (typically 6 months - 1 year)
- F- Denotes fair chemical resistance on a continuous immersion basis (typically 1 - 6 months)
- S- Denotes resistance to splashes and occasional spillages
- NR- Denotes NOT RESISTANT, rapid failure being expected

Note that although these tables may be used for guidance purposes, caution must be exercised when more than one chemical is involved and/or temperatures are higher than ambient.

Please consult our Technical Section for specific advice.

The data is given freely and in good faith, however no guarantee is either offered or implied. The manufacturer will accept no liability for work carried out with its products.

Chemical Resistance List
Products: Ultracoat and Ultracrete

Section 1 Acids

<u>CHEMICAL</u>	<u>CONCENTRATION</u>	<u>RATING.</u>
Acetic acid	5%	E
Acetic acid	10%	E
Citric acid	30%	E
Formic acid	10%	VG
Lactic acid	10%	VG
Tartaric acid	20%	E
Oxalic acid	10%	E
Chromic acid	10%	VG
Chromic acid	20%	G
Hydrochloric acid	10%	E
Hydrochloric acid	20%	E
Hydrochloric acid	37%	VG
Hydrofluoric acid	10%	M
Nitric acid	10%	G
Nitric acid	30%	M
Oleum (fuming Sulphuric acid)		S
Phosphoric acid	20%	E
Phosphoric acid	75%	VG*
Phosphoric acid	100%	M*
Sulphuric acid	50%	E
Sulphuric acid	70%	E
Sulphuric acid	85%	VG*
Sulphuric acid	96%	VG*

*Test continuing - Service life may exceed currently known rating

Section 2 - Alkalis and Inorganic Salts

CHEMICAL	CONCENTRATION	RATING
Ammonium Carbonate	All	E
Ammonium Chloride	All	E
Ammonium Hydroxide	10%	E
Ammonium Hydroxide	25%	VG
Ammonium Nitrate	All	E
Ammonium Sulphate	All	E
Calcium Hydroxide	All	E
Ferric Chloride	All	E
Magnesium Silico - Fluoride	All	M
Magnesium Sulphate	Sat'd	E
Potassium Chloride	All	E
Potassium Nitrate	All	E
Sodium Bisulphite	Sat'd	E
Sodium Chlorate	All	E
Sodium Dichromate	50%	E
Sodium Hypochlorite	16%	VG
Sodium Hydroxide	20%	VG
Sodium Hydroxide	50%	E
Sodium Sulphate	Sat'd	E
Sodium Sulphide	All	E
Sodium Sulphite	All	E
Sodium Thiocyanate	57	E
Sodium Thiosulphate	All	E
Stannic Chloride	All	E
Zinc Chloride	70	E
Zinc Sulphate	All	E

Section 3 Solvents

<u>CHEMICAL</u>	<u>CONCENTRATION</u>	<u>RATING</u>
Acetone	10%	F*
Acetone	100%	NR
n - Butanol		G
2 - Butoxy Ethanol		M
Carbon Tetrachloride		G
Dowanol PM		G*
Ethanol	10%	E
Ethanol	98%	G
Ethyl Acetate		S
Ethylene Glycol		E
Isopropanol		G
Methanol		G*
Methyl Ethyl Ketone		G*
Petroleum Naphtha (heavy aromatic)		VG
Toluene		M
1,1,1- Trichloroethane		G
Turpentine		E
Xylene		G

Section 4 - Miscellaneous

CHEMICAL	CONCENTRATION	RATING
Cashew Nut oil		E
Castor oil		E
Chlorine gas		VG
Chlorine water	Sat'd	VG
Crude oil		VG
Diesel		VG
Formaldehyde	35%	M
Glycerine		E
Hydrogen Peroxide	30%	M
Hydrogen Sulphide	100%	VG
Jet Fuel		VG
Kerosene		VG
Milk		VG
Motor oil		VG
2 - Nitropropane		G
Olive oil		E
Ozone		VG
Palm oil		E
Petrol		VG
Sea water		E
Skydrol		VG
Soy Sauce		E
Styrene		S
Urea	50%	G
Whey		G