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	Epoxy Adhesives - WaterG. Series		Underwat. Medium Setting



Formulating The Future®

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PETROKEM WATERGUARD UWA20®

Underwater Tile Adhesive & Repair Compound For Submerged Conditions

Petrokem WaterGuard UWA20® is a high quality two component epoxy system specially developed to be used in both dry and wet conditions. The Product can be used as an underwater repair compound or as an underwater adhesive to bond metal, wood, ceramic or other material. It is specially designed for fixing of tiles and also to carryout repair work in underwater conditions. The advantage of the product is the ability to carry out the repair work in submerged conditions without draining the existing water. The product can be used as a two component liquid application or three component mortar application.

Petrokem WaterGuard UWA20® can be mixed with the required quantity of Filler D® (or suitably graded dry sand) to obtain the required viscosity. If the application is underwater, an adequate amount of filler quantity should be added to obtain a thick viscous paste to avoid bleeding (ie. any binder floating in water) Petrokem Water Guard UWA20® is recommended to fix ceramic wall or floor tiles, mosaic tiles, granite, marble, terrazzo or natural stone tiles. The dried product is a chemical resistant, water proof mortar suitable for interior and exterior applications and recommended to be used in repairs of swimming pools, shower areas, ponds and other water retaining structures.

 Properties				
	Resin	Hardener	Filler	Mortar
Appearance	Viscous Liquid	Viscous Liquid	Powder (Filler D®) or Graded Dry Sand	Viscous liquid or trowellable composition depending on required application
Colour	White	Black	Filler D® - White Graded Dry Sand - Sand Colour	Grey Filler D - When used Light Grey
Mixing Ratio	2 parts of resin component to 1 part of hardener component by volume			
Density	1.15 - 1.16 g/ml	1.0 - 1.01 g/ml		
Induction Time	-			9 -10 Minutes



Solid Content	100%	100%	-	-
Pot Life				Approx. 20 - 30 mins at 30°C
Curing Time				70% - 80% strength in 24 hrs. at 30°C 100% (full) strength in 72 hrs. at 30°C
Curing Temperature				Over 5°C



General Characteristics

Petrokem Water Guard UWA20®

- Specially developed for under water repair work & can be used for wet/dry surfaces.
- Can be used to bond dry concrete to newly laid wet concrete.
- Viscosity could be changed by changing the binder to filler ratio. (By changing the amount of filler)
- Provides a hard wearing surface with high mechanical strength and chemical resistance.
- Provides a rigid system and therefore not suitable to be used in expansion joints.
- Cures at room temperature.
- Cures underwater at normal temperature.
- Can be laid in a variety of surfaces.
- High impact, flexural, compressive and tensile strength.



Directions

The successful performance of the product depends upon the conditions of application. Careful planning of the repair work is essential in underwater applications.

Important Factors for a successful Application

- Proper mixing ratios of resin & hardener
- Mixing times of resin & hardener. (5 mins of thorough mixing is recommended)
- Type Of filler used (Filler D or dry graded sand)
- Conditions of the substrate and its preparation (Substrate should be clean, mechanically sound and free from all foreign matter)
- Method of Application

Surface Preparation

- Allow the surface to cure for 28 days if the surface is a newly laid concrete.
- Use suitable equipment to remove loose material, old paint and all other foreign matter.

Method of application**Mixing Ratio of Petrokem Water Guard UWA20®**

Petrokem Water Guard UWA20® Resin	Petrokem Water Guard UWA20® Hardener	Filler D®
2 Parts by Volume	1 Part by Volume	Suitable Amount

Mix thoroughly 2 volumes of Petrokem Water guard UWA20® resin and 1 volume of Petrokem Water Guard UWA20® hardener in a suitable clean container. Five minutes of thorough mixing is recommended. Mixture should be kept for approximately 9 -10 minutes (**Induction Time**). Then gradually add required quantity of Filler D® (if required) and mix thoroughly to obtain a paste of smooth consistency. Mixing should be slow to avoid air entraining. The mixed material is now ready to use and the pot life is approximately 30 minutes

Tile Fixing

The surface to be tiled should be clean and free from all foreign matter. Clean the area where the tile has de-bonded (remove the existing adhesive and all loose material from the substrate). Apply the above mixture on to the back side of the tile and fix the tile by pressing the tile using hands in the cleaned area where the tile has de-bonded. Remove the excess adhesive from the tile surface and surroundings immediately after the application. Provide props or a weight to support the tile for 8 – 24 hrs

Under Water Applications**Repair Work For Damaged Concrete Areas**

The mixture is applied to the required area by using suitable equipment, normally by masons trowel or by hand (Use gloves to cover the hands) and lay a polythene film over the repaired area. Then the repaired area should be covered with a steel plate. The steel plate is used to keep the mortar in place (The polythene film is required as a de-bonding material to remove the steel plate once the mortar mixture is dried). Provide props, weight or suitable means to support the steel plate. Leave the mortar mixture for 8 hrs and then remove the steel plate.

 Other Information	
Cleaner	Clean all used equipment with Petrokem Epoxy Thinner 221
Packaging	Available in 1 Kg packs (Resin 751 gms / Hardener 249 gms) & Filler D [®] is available in 250gm, 1kg, 7kg packs
Shelf Life	Minimum of 12 months from the date of manufacture when store in cool, dry environment.

Disclaimer :

The information contained in this document is based on Petrokem's knowledge, drawn from laboratory testing and practical experience. Petrokem's products are categorized as semi-finished goods and may be used under conditions beyond the company's control. While Petrokem guarantees the quality of its products, no additional assurances can be provided. Furthermore, Petrokem reserves the right to amend the information presented in this document or elsewhere without prior notice.



Health & Safety Precautions

Petrokem Water Guard UWA20[®] Resin and hardener are chemicals and care should be taken when handling. For details please read Petrokem epoxy safety and handling information sheet. A copy of this manual will be supplied on request.

Ensure good ventilation.
 Avoid eye contact
 Eye contact : rinse with running water for 10 minutes and seek medical advice.
 Skin contact : wash with soap and water.
 Keep container closed and out of reach of children.
 Refer material safety data sheet.



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