Quickmast EP500

(Solvent free epoxy ceramic tile and stone adhesive and grout)

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Section A : General Comments

General Notes:

The information below is a detailed overview of the application of DCP's **Quickmast EP500** tile adhesives and should be read in conjunction with the relevant technical data sheet prior to application. All DCP Products should be applied by experienced specialist contractors.

All the points below assume the correct preparation of the relevant surface.
Note: This guideline is written specifically for **Quickmast EP500**.

High-Temperature Working:

Application temperature ranges from 5°C - 35°C. However, it is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

   i. Unmixed materials and equipment should be stored in a cool place and away from direct sunlight.

   ii. Avoid application during the peak temperature of the day.

   iii. Ensure proper and adequate ventilation.

   iv. Plan for enough materials, tools, and labor to ensure a continuous applicant process.

Low-Temperature working:

It is suggested that, for temperatures below 5°C, the following guidelines are adopted as good working practice:

   i. Unmixed materials should be stored in a warm.

   ii. Do not apply under rain or snow, and avoid dew point conditions during application.

   iii. Avoid applying the product if the temperature is around 5 and falling.

Tools and Equipment:

It is suggested that the following list of equipment are adopted as a minimum requirement

Personal protection	:	Protective overalls
	:	Goggles or a face mask
	:	Good quality gloves
	:	Safety shoes
	:	Safety helmet

Equipment	:	Mixing drill (Fig.1)
	:	Mixing paddle (Fig.2)
	:	Empty bucket (25 litre) (Fig.3)
	:	Notched trowel (Fig.4)
	:	Hand held grinder (Fig.5)
	:	Rubber hammer (Fig.6)
	:	Spatula (Fig.7)
	:	Rubber float (Fig.8)
	:	Sponge or dry cloth (Fig.9)
	:	Masking tape (Fig.10)

Fig.1: Mixing drill   *Fig.2: Mixing paddle*   *Fig.3: Empty bucket*   *Fig.4: Notched trowel*

Fig.5: Hand held grinder   *Fig.6: Rubber hammer*   *Fig.7: Spatula*   *Fig.8: Rubber float*

Fig.9: Sponge or dry cloth   *Fig.10: Masking tape*

Section B : Application

1.0   Substrate Preparation

1.1   As a Tile adhesive

1.1.1   Concrete and cement-based substrates must be sufficiently cured and dimensionally stable. Allow time for shrinkage and structural strain movements.

1.1.2   Excess laitance, old coating, mortar, paint splashes, or surface treatments are best removed by mechanical grinding, light sand/grit blasting followed by vacuum cleaning to remove dust debris. All preparation equipment should be of a type approved by DCP.

1.1.3   If the application will take place on steel surfaces, surfaces shall be free from rust or other contaminants, ideally grit blasted to a near white finish with accordance to Swedish standards SA 2 ½.

1.1.4   Repair any damages, Surface defects, cracks, and honeycombing with the appropriate DCP concrete repair system.

1.1.5   Provide a flat, smooth surface and remove any irregularity, flaky, or peeling layers using a hand-held grinder.

Note: The substrate must be flat to prevent forming an undesirable appearance or defects that can affect tiles behaviour after fixing them.

1.1.6   It is recommended that surfaces are in dry condition before tiling.

1.1.7   **Quickmast EP500** can be applied as a tile adhesive over various substrates as stated in the table below:

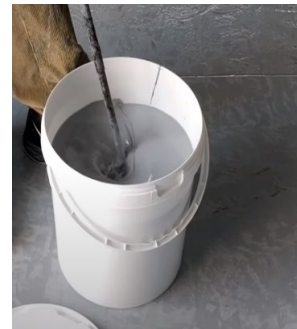| Substrate	Substrate preparation	Primer
Masonry	Apply suitable plaster for mixed masonry	Not required
Metal such as stainless steel	▪ Ensure the substrate is bending resistant ▪ Roughen the stainless steel and clean it with Acetone ▪ If the steel is roughened, no need for primer	If the steel is not roughened, use Strongcoat Primer + Antislip Aggregate #2
Extruded Polystyrene Foam (XPS)	▪ The XPS must be stably formed ▪ Use Thermofix Flex + Fiberglass mesh	Not required
Concrete	The substrate must be cleaned from any oils, contamination, cement mix residues mechanically by sandblasting	Not required
Cement-bound screed	Surface to be clean and free from contamination	Not required
Basic plaster	The substrate must be leveled and with a suitably prepared profile For tiles > 1600 cm^2 the compressive strength of the plaster should be > 6 MPa.	Not required
Drywall construction panels	Construction must be stably formed	Not required

1.2   As a Tile Grout

    1.2.1   Ensure that the tile adhesive has completely dried and hardened.

    1.2.2   All tiles must be securely fixed in place and thoroughly cleaned before **Quickmast EP500** is applied. All joints must be clean and free from oil, grease, or any contamination.

    1.2.3   Remove the tile spacers and ensure that the grout joints are uniform and their widths are not less than 1.5 mm and do not exceed 10 mm to avoid slumping.

    1.2.4   Blow out joints immediately prior to grouting to ensure there is no standing water.

    1.2.5   All grout joints must be emptied down to at least 2/3 of the thickness of the tiles.

    1.2.6   Grout release product may be needed over certain types of porcelain tiles or textured surfaces where a fine surface porosity may trap some colour pigments, site test on a tile sample is recommended to confirm the need for a grout release.

2.0   Mixing

2.1   A mechanically powered mixer or drill fitted with a suitable paddle type should be used to ensure proper mixing.

2.2   Locate the mixer or the mixing container as close as possible to the area of application in order to minimize the transporting time.

2.3   Stir the base and the hardener individually to disperse any settlement.

2.4   The entire contents of the base and hardener should be poured into a suitable size container.

2.5   Place the entire amount of the Base part of **Quickmast EP500** into a clean container, add the hardener slowly into the base container while mixing for 2 minutes continuously with a low-speed mixer/drill (400 – 600 rpm).

2.6   Add the filler to the base/hardener mixture and mix for another 3 minutes until a uniform colour and consistency are achieved.

Notes:
- *Slow speed mixer should be only used. Do not mix by hand.*
- *While mixing, ensure that the mixing blade is kept below the surface of the adhesive to prevent air entrapment.*
- *Use the whole amounts of* **Quickmast EP500** *base, hardener, and filler for the mix; avoid partial mixing.*
- *Do not mix more than the amount to be placed within its pot life (80 - 110 min at 25°C and 50 - 80 min at 35°C).*
- *Clean the mixing equipment with water immediately after finishing mixing as the product is hard to clean when it hardens.*

3.0   Application

3.1   As a Tile Adhesive

    3.1.1   Prior to placement, ensure that all surfaces are dry and free from any contamination or dust.

    3.1.2   Choose the size of the trowel that will give the right thickness.

    3.1.3   Apply the adhesive as immediately as possible after mixing to the substrate, only apply over the area that can be tiled within the product's open time.

    3.1.4   **Quickmast EP500** is a thermosetting product, so it sets faster in a container or a large mass, removes the mixed product from the container, and is placed in piles on the floor.

    3.1.5   Apply the product with pressure onto the substrate using the flat face of the notched trowel.

    3.1.6   Comb diagonally additional mixed adhesive up to 3 mm total maximum thickness using the notched side of the trowel.

Note: 2.5 - 3 mm thickness of tile adhesive can be achieved using a 6 mm X 6 mm square notched trowel, depending on the angle of application.

    3.1.7   Place and align the tiles in a twisting motion with firm pressure to ensure proper contact with the adhesive.

Note: for vertical applications, tiling should begin from the bottom upwards.

    3.1.8   Leave appropriate clearance for joint grouting and make any adjustments within the product's open time.

    3.1.9   Provide sufficient movement joints among the tiled surface to eliminate stresses and allow for slight movements as specified per TCNA Detail EJ171.

Note: The following guidelines are recommended for the placement of expansion joints between tiles:

➢   For interior application: movement joint should be provided every 7.5 m in each direction.

➢   For exterior application: movement joint should be provided every 2.5 to 3.5 m in each direction, joint width: 10 mm for 2.5 m and 13 mm for 3.5 m.

➢   Minimum widths must be increased by 1.5 mm for each 10˚C tile surface temperature change greater than 38˚C between summer high and winter low.

    3.1.10   Lift any tile and assess adhesive coverage after fixing to ensure that the required contact is achieved.

Note: Pre-calculation of the exact needed volume of adhesive is essential to ensure full coverage under tiles.

3.1.11   Remove excess adhesive from the joint areas so that at least 2/3 of the tile depth is available for grouting.

3.1.12   Clean off any excess adhesive with a damp cloth or sponge before it sets.

3.1.13   Prior to grouting, ensure that all surfaces are dry and free from any contamination or dust.

3.1.14   If the tile surface has any shiny or tacky residue, remove it with a neutral solution of liquid detergent and water.

3.1.15   Leave the tiled surfaces for 24 hours before grouting.

3.1.16   Ensure not to allow any activity that will cause dirt or debris in the tiled area to become embedded in the joints of the tiles while the adhesive is curing

3.2   As a Tile Grout

3.2.1   Prior to grouting, ensure that all surfaces are dry and free from any contamination or dust.

3.2.2   **Quickmast EP500** is a thermosetting product, so it sets faster in a container or a large mass, removes the mixed product from the container, and places it in piles.

3.2.3   Use masking tape on joint edges to protect tiles.

3.2.4   Using an appropriate spatula, or rubber float fill with pressure the joints completely with **Quickmast EP500** as immediately as possible in a continuous manner, leaving it flush with the tile edge.

3.2.5   Fill the joints with the maximum amount of grout possible. and ensure all joints are free of voids and gaps.

3.2.6   Immediately remove the excess grout before it begins to set by holding the rubber float 90° angle to the tile and moving the spatula or the edge of the rubber float diagonally over the tiles.

3.2.7   When the grout starts to set (usually 20 - 30 minutes at normal conditions), use a damped cellulose sponge or wet cloth in a circular motion to remove the excess grout and level the joints.

Notes:
➢   *To ensure the easiest cleaning procedure, cleaning should begin immediately after application.*
➢   *As an extreme case, cleaning may be delayed to a maximum of 30 minutes after application; however, it is essential to note that the more they wait, the harder it will be to clean.*
➢   *Using warm water will provide easier clean-ability.*

3.2.8   Keep changing water in the buckets, and make sure to rinse the sponge or the cloth regularly with a lot of clean water once there is no more grout residue left on the tile to avoid residue buildup. Failure to do this properly will cause all the suspended grout to go back into the tile once the surface dries.

Note: Ensure grout has been set sufficiently before starting the cleaning procedure to avoid grout being removed from joints.

3.2.9   It is advisable to remove uncured grout from textured tiles prior to setting, failure to do so may result in difficulty in removal.

3.2.10   Apply a good amount of water to the freshly grouted area then scrub and clean the tile surface diagonally to the joint line using a white scouring pad (use a more aggressive pad if the tile has an abrasive surface).

3.2.11   This process may have to be repeated a number of times before all the haze comes off.

Notes:
- *Confirm availability of mixing equipment.*
- *Do not apply at a temperature below 5˚C.*
- ***Quickmast EP500*** *can be used for joint widths up to 10 mm.*
- *In horizontal applications, do not step on freshly grouted tiles, as this could permanently damage the grout.*
- *Check the substrate in advance. Ensure that the substrate is in good condition and clean.*
- *Do not change the product mixing ratio.*
- *When coloured tile grouts are to be used, it is recommended to carry out a clean-ability test on a small area prior to full application*

4.0   Thickness Limitations

4.1   **Quickmast EP500** should be applied as a tile adhesive in a single layer at thicknesses up to 3 mm.

4.2   **Quickmast EP500** should be applied as a tile grout at joint widths not less than 1.5 mm and not exceeding 10 mm.

5.0   Cleaning

5.1   All tools used for **Quickmast EP500** must be cleaned immediately after application with fresh clean water.

5.2   After initial set, product may be removed by Solvent. Hardened materials must be cleaned mechanically.

6.0   Limitations

6.1   The recommended application temperature range is between 5 and 35°C.

6.2   Special care should be taken to provide a continuous, gap-free grout line.

6.3   **Quickmast EP500** application should not commence if the temperature of the substrate is below 5°C

6.4   **Quickmast EP500** doesn't require any special curing but it should be cured for at least 72 hours @25°C before routine cleaning.

6.5   **Quickmast EP500** should be cured for a minimum of 7 days @25°C before water immersion or exposure to chemicals.

6.6   Not recommended for grouting white or translucent marble.

6.7   For outdoor grouting, slight discoloration may occur without affecting the performance.

6.8   Precautions must be done to ensure that the tiles are compatible with colored grout.

Section C : Cautions

Health and safety

Quickmast EP500 should not come into contact with skin and eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours.

Fire:

Quickmast EP500 is nonflammable.

For further information on refer to the Material Safety Data Sheet.

Section D : Approval and Variations

This method statement is offered by DCP as a 'standard proposal' for the application of **Quickmast EP500**. It remains the responsibility of the Engineer to determine the correct method for any given application. Where alternative methods are to be used, these must be submitted to DCP for approval, in writing, prior to commencement of any work. DCP will not accept responsibility or liability for variations to the above method statement under any other condition.