X-Roc SlabPatch, General Use

1.0 Labor

Application of X-Roc SlabPatch is a skilled operation and should only be carried out by experienced technicians with the correct training. Application by unskilled labor is not permitted.

2.0 Surface Preparation

Concrete substrate must be structurally sound. Loose or unsound concrete should be removed. Surfaces must be entirely free of oil, grease, paint, corrosion deposits, dust, laitance or other surface deposits. Saw cut around the edge of the repair to a minimum depth of 6mm. Reinforcing steel should be fully exposed with enough room behind the steel to place the repair mortar. If bulking out with 10mm aggregate, the minimum depth should be 25mm.

3.0 Protection of reinforcement steel

Remove all corrosion from the exposed steel in accordance with ICRI Technical Guideline No 03730. For additional protection against corrosion and to protect the adjacent edges of the repair, coat the steel with X-Roc ResiZinc. The steel may also be protected using X-Roc EpoxyBond or X-Roc Latex mixed with cement. Prior to using either of these products, please consult with an X-Calibur Authorized Technical Specialist.

4.0 Substrate priming

After surface preparation has been completed, the substrate should be soaked with water for a minimum of 2 hours and not allowed to dry out. No priming is required if the substrate is in a saturated surface dry (SSD) condition at the time of placing the mortar.
If the prepared substrate cannot be soaked or be in an SSD condition, then the substrate should be primed using either of the following methods:

4.1 Priming with X-Roc BondCure

X-Roc BondCure is an acrylic bonding agent that is used undiluted straight from the pack. It is particularly useful in conditions where the bonding agent may dry out. Brush X-Roc BondCure into the saturated surface dry substrate, taking care to avoid ponding or excessive application.

4.2 Priming with X-Roc EpoxyBond

In immersed conditions; where the maximum possible bond strength is required, or where a saturated surface dry substrate is not possible, X-Roc EpoxyBond should be used. Mix the entire contents of Part A with the entire contents of Part B until a uniform color is achieved. Brush the mixed material into the surface of the substrate, taking care to avoid ponding or excessive application. The mortar must be applied while EpoxyBond is still tacky.

4.3 Priming with X-Tech VaporStop HB

X-Roc SlabPatch can be applied over concrete slabs treated with X-Tech VaporStop HB (refer to the X-Tech VaporStop HB method statement).

5.0 Mixing

Prior to first mix of the day, wet down the equipment with water then remove any excess. Add X-Roc SlabPatch to water and mix for a maximum of three minutes until fully dispersed. Maximum water addition is 3.8L/25kg bag. Use an X-Calibur approved forced action mechanical mixer. When coarse aggregate is added to the product, drum mixers can be used for mixing. Use cold water. Shade equipment and powder DO NOT OVERMIX – THIS IS A FAST SETTING MATERIAL.

When using aggregate to bulk out the material the powder and aggregate should be added to the mixer first then the water added last. For applications that involve rapid cooling of the product, which could cause differential temperature cracking it is recommended that Polypropylene fibers (X-Mix PPF 12mm) be added to the mix. One bag of 0.07kg of X-Mix PPF is suitable for 100 kg, 4 bags, of X-Roc SlabPatch.

6.0 Application

The mixed material should be applied immediately after mixing is completed. The material should be applied in such a way as to ensure thorough compaction around the reinforcement, other obstructions such as cables or ducting and against the edges of the reinstatement area. The repair is then finished by trowel. X-Roc SlabPatch is a rapidly reacting product. It is therefore important that the mixing and placing are complete whilst the material is still workable. If further workability is required a liquid retarder, X-mix Retard Plus can be added to prolong the working time. Normally 10ml of X-Mix Retard Plus per bag is sufficient to provide the extra workability required.

7.0 Thickness

The application thickness should be between 6mm and 100mm. The product can be filled out with 10mm graded aggregate up to 1:1 by weight and the maximum horizontal thickness increased to 250mm. Trial mixes must be carried out to determine the exact amount of aggregate that can be added and the water content to be used. Do not apply less than 25mm thick when extended with aggregate.

The amount of aggregate that can be added will depend in part to the surface area of the aggregate and the amount of fines. High fines, angular aggregate is the worst combination and will mean a lower aggregate addition. Do not add extra water to compensate. Initial trials with the aggregate intended use will set water and aggregate content.

Applications in excess of the thickness quoted above or where material is extended with aggregate should be made in two passes. First apply the mixed material up to the top of the reinforcement, around ducts and cables ensuring thorough compaction also ensure compaction against the edges of the reinstatement area. Leave the surface of this reinstatement rough or key as required then proceed to reinstate to the finished level. If this operation cannot be achieved continuously, within 2 hours at 20°C then once the stage one layer has reached sufficient strength, apply a primer coat of X-Roc EpoxyBond to the surface of this reinstatement and proceed with the second layer.

8.0 Curing

Cure immediately after finishing using X-Roc BondCure or X-Cure WB, or cure continuously in accordance with good concrete practise for seven days. If the temperature differential between night and daytime temperatures exceeds 10°C then a 50mm layer of Styrofoam is recommended as an insulator for the product during the initial 24 hours of cure.

9.0 Limitations

Ensure the temperature of the mortar does not exceed 35C at the time of mixing.
Do not mix by hand.
Do not part mix; use only full bags.
Do not apply in rain or wet conditions or at temperatures below 40F.
Lower temperatures produce a slower set; higher temperatures produce a faster set.
Do not expose to running water until the product is cured fully.
In order for the product to reach temperature equilibrium between the core of the repair and the surface of the repair, the repair area should not be immersed for a period of 24 hours after placing.

10.0 Safety

This product is for industrial use only by trained operatives.
This product is potentially hazardous if not used correctly.
Please refer to the Material Safety Data Sheet (MSDS).
Operatives should use barrier creams when handling epoxy based materials.
Care should be taken not to spill the coating or allow it come into contact with skin.
Operatives should use the following personal protection equipment:

- Eye protection
- Gloves
- Rubber soled safety shoes
- Coveralls
- Solvent mask when applying primer

When using electrical equipment such as mixers ensures that they are properly fused and earthed with the correct plug and sockets fitted.
Do not use electrical equipment if it will come into contact with water.
When using airless spray equipment the operators must have been fully trained by the manufacturer of the equipment.

11.0 Authorized Technical Specialist

Please note only X-Calibur Authorized Technical Specialists ("ATS") are permitted to change any of the information in this method sheet or to provide written recommendations concerning the use of this product.

12.0 Product Guarantee

TAL products are manufactured and tested in accordance with TAL procedures, which are maintained in line with Quality Control System Standard ISO 9001: 2008. TAL products are guaranteed to be free from manufacturing defects and fit for design purposes.
This guarantee is subject to the performance of TAL products when used strictly in accordance with their materials and methods specifications for the particular project, and where good workmanship is followed. However, we have no influence over specific site conditions and therefore, if in doubt, the user must always carry out sufficient tests to satisfy himself/herself that the product is suitable for the intended purpose. In special cases, obtain professional advice.
TAL cannot be held responsible for the standard of workmanship on site, or any problems caused by unsound structures or foundations, cracking of the substrate, deflections of slabs or backgrounds, vibration, creep movement of the structure, etc, or any products which have been adulterated, contaminated or misused in any way. The aforementioned list is not exhaustive.
NOTE: We require timeous notification of an alleged defect and the opportunity to assess and investigate the problem to our satisfaction prior to any remedial work whatsoever being carried out.