SpECbuild STG

HIGH STRENGTH, ONE PART POLYMER MODIFIED REPAIR COMPOUND

DESCRIPTION

SpECbuild STG is a pre-bagged, one part cementitious repair compound. After the addition of clean water a high strength, non-shrink mortar is produced.

TYPICAL USES

SpECbuild STG is designed to provide a structural grade repair mortar particularly in situations where abrasion resistance and low permeability are required, such as:

- Repairs to structural concrete elements, e.g. reinforced beams and columns
- Highly trafficked surfaces, particularly transition strips adjacent to mechanical bridge joints
- Repairs in marine environments or other situations where concrete is in contact with chloride or sulphate solutions

ADVANTAGES

- High bond strength to concrete substances.
- Good abrasion resistance.
- High compressive strength.
- Coefficient of thermal expansion similar to host concrete.
- Compensated for plastic and long-term shrinkage
- Low permeability providing protection against the ingress of chlorides and carbon dioxide

TECHNICAL DATA

Tensile Strength	3 N/mm²
Compressive strength	
@ 28 Days	50 N/mm²
Flexural strength	
28 days	7 N/mm²
Mix density	2200 - 2300 kg/m³

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECbuild STG**. This preparation should ensure the removal of all grease, oil and loose material.

The area to be reinstated using **SpECbuild STG** should be cut back to a depth of at least 10mm. To avoid "feather edging", it is advisable to neatly delineate the repair boundary by saw cutting to a depth of 10mm.

All corroded steel should be completely exposed including the rear of the bar to enable thorough cleaning. It is recommended that grit blasting be used to clean the reinforcing steel and particular attention should be paid to the rear of the bar to ensure all corrosion products have been removed. Once the reinforcing steel has been cleaned it should be coated immediately with one coat of **SpECcoat Zn25**.

Substrate Priming

For most situations, the substrate should be primed with **SpECbuild Primer S1**. Initially the surface should be thoroughly saturated without standing water prior to the primer being applied by brush, ensuring intimate contact with the substrate. This is best achieved by using a circular scrubbing action. **SpECbuild STG** can be applied as soon as the primer becomes tacky.

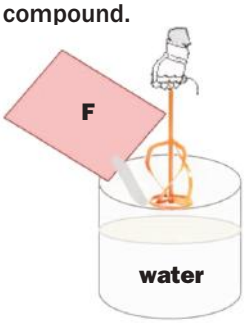
To provide an exceptionally high strength, sealed bond to the substrate (e.g. to repair chloride

induced corrosion damage), **SpECbuild Primer E1** epoxy resin bonding agent may be used. One coat should be applied and allowed to gel. A second coat should then be applied and used to provide the bond.

Where **SpECbuild STG** is applied by spray, then sharp sand may be broadcast into the surface of the second coat of **SpECbuild Primer E1** and be allowed to dry.

Mixing

SpECbuild STG is a one-part cementitious repair compound.



For mixing a single bag, a 25 litre steel pail is suitable, using a slow speed electric drill (350/600rpm) fitted with a **SpECbuild** Mixing Paddle. Where larger quantities of material need to be mixed at one time a compulsory mixer is required. Do not attempt to use free-fall mortar mixers as they do not impart sufficient shear to adequately mix the repair compound.

Place 3.1 to 3.4 litres of clean water in the mixing vessel and slowly add the contents of the bag with the mixer running. The product should be mixed for a minimum of 5 minutes. Do not attempt to use the product if it has not been mixed for the minimum time, as a loss in the performance of the product is likely which could result in failure of the repair.

This product cannot be mixed by hand.

Application

The material should be applied by a gloved hand to ensure thorough compaction around the reinforcement and against the edges of the reinstatement area. The repair is then trowel finished.

The product can be applied up to 15mm in thickness in vertical, unsupported situations and up to 40mm in recessed, supported repairs. The product can be applied in 100mm layers in the horizontal plane. The material should not be applied at less than 10mm thick.

Curing

SpECbuild STG should be cured using a **SpECcure WE**. In extreme drying conditions a second coatshould be applied immediately the first coat has dried.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above this range the material should be stored in shade and cool water used for mixing.

EQUIPMENT CLEANING

SpECbuild STG, **SpECbuild Primer S1** and **SpECcure WE** should be cleaned from equipment using water immediately after application.

SpECcoat Zn25 and **SpECbuild Primer E1** should be cleaned from equipment using **SpECtop Cleaning Fluid**.

PACKAGING & YIELD

Product	*Packaging*	*Coverage*
SpECbuild STG	25kg bags	1.2m²@ 10mm thick

STORAGE & SHELF LIFE

SpECbuild STG has a shelf life of 12 months when stored in original containers in a cool, dry environment.

HEALTH & SAFETY

SpECbuild STG contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing. Gloves, goggles and a dust mask must be worn.

Eye contact

Rinse with copious amounts of clean water and seek medical attention.

Skin contact

Rinse with copious amount of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

FLAMMABILITY

SpECbuild STG, **SpECcure WE**, **SpECbuild Primer E1** and **SpECbuild Primer S1** are not flammable.

SpECcoat Zn25 and **SpECtop Cleaning Fluid** are flammable, do not expose to naked flames or other ignition sources.

FLASH POINT

SpECcoat Zn25	>60°C
SpECtop Cleaning Fluid	>40°C

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