

Method Statement -- high performance *tuffset G* for bedding, priming, jointing and repairs

1 A multi-purpose all-in-one product

Tuffset G is a high performance hydraulic mortar with rapid strength gain. Capable of being subjected to heavy trafficking within three hours or less, **tuffset G** is a versatile product that can be used effectively as bedding, primer and grouting, as well as being ideal for emergency repairs to modular paving, concrete and ironworks.

2 For full trafficking within three hours

The surface of any bound roadbase must be sound and free of loose material and be thoroughly cleaned and rinsed using clean water. Start the mixing machine and add **TWO** 25kg sacks of **tuffgrit** aggregate. If the aggregate is bone dry, dampen it slightly while the mixer is running. With the aggregate mixed and damp throughout, pour in the whole 25kg sack of **tuffset G**, allowing sufficient mixing time for the dry mortar to cling evenly to all of the damp **tuffgrit**.

Once an even dry-coated consistency is achieved, slowly add sufficient water – usually 1 to 2 litres – to get the desired consistency. (BS7533- 4 section 5.4.4.2. recommends that the mixed bedding mortar should achieve a 150 mm slump). Do not mix more material than will be used within about 15 minutes at an ambient 20°C .

The pavers should be coated with a layer of **tuffset G** primer and immediately pushed into position on the fresh bedding. **Tuffset G** jointing can start after a one-hour quarantine of the paving elements being placed, and the surface will be strong enough for full trafficking within three hours.

NOTE: Sometimes during the mixing process, ball-shaped clumps can begin to form. This is usually a result of the **tuffgrit** aggregate being excessively wet when the dry mortar is added. However, these clumps will break up providing the mixer is allowed run for long enough. The problem can be reduced by using a forced action mixer, which is far more thorough and effective than a traditional drum mixer, and better suited to the task.

3 For overnight trafficking

This follows the same method, but requires the addition of **FOUR** 25kg sacks of **tuffgrit** aggregate, to **ONE** sack of **tuffset G**. It achieves the same strength as the 2:1 rapid strength-gain mix, but requires more time. It can be a highly cost effective solution for overnight repairs.

4 Priming

Where there is a concrete base, and early trafficking is required, a 1-2 mm thick layer of **tuffset G** prepared as priming mortar should be applied to the concrete before the mixed bedding mortar is poured on to it. The paving units should be thoroughly clean and wiped with a damp sponge, before they too have a layer of primer trowelled on to them and are laid firmly into position without delay. To prepare as priming mortar, **tuffset G** should be mixed

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with just enough water to form a thick, pasty slurry. Only quantities that will be used within approximately 15 minutes at an ambient 20°C, should be mixed. After laying, the paving surface must be thoroughly washed with water to remove any surplus mortar from the surface.

5 Quarantine

The surface should be quarantined to prevent any kind access for at least one hour, and longer in lower temperatures, in order to avoid disturbance and displacement of paving units on the fresh bedding mortar.

6 Jointing

Thoroughly drench the paving, joints, and bedding before grouting. Use plenty of water to saturate the entire area. Excess water will be displaced by the **tuffset G** jointing mortar, and wet paving will help prevent staining and make cleaning easier. Thoroughly mix **tuffset G** with between 2.5 litres and a maximum of 4 litres of water per 25kg sack, using a forced action mixer, spiral mixing paddle, or twin paddle mixer. The mixture should be as thick as possible, but remain just pourable. If mixed too wet, some of the ingredients will be washed away. The **tuffset G** jointing mortar should be poured over the area to be grouted, starting from one corner of the paving. Draw the grout across the surface with a squeegee so that it flows into the joints.

Allow the mortar to flow into the joint so that air and water rise out. To achieve this, the grout should be spread diagonally across the joints. This also prevents the material being raked out. Excess water will rise to the surface as the grout fills and compacts in the joints. Constantly spray the surface with a light shower of water to prevent it becoming dry. Do not use a direct jet of water, as this will wash out the jointing mortar. Remove excess water and residue from the surface by drawing the squeegee across the surface. Keep wetting and removing residue and water until the surface is clean. This process may require several passes with the squeegee.

7 Concrete, carriageway, manhole cover and ironworks repairs

To use **tuffset G** for general carriageway repair, and to fix damaged concrete, paving, manhole frames or embedded ironwork, use the method already outlined for the preparation of **tuffset G** as bedding, but use a ratio of **ONE** 25kg sack of **tuffgrit** aggregate to **ONE** 25kg sack of **tuffset G**. Concrete repairs achieve a result fully compatible with pavement quality concrete C32/40. **Tuffset G** can also be used neat and mixed as a thick slurry without aggregate for high strength repairs to small or awkward gaps.

