

High Performance *tuffset G*: Technical Data

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, making it ideal for emergency repairs to modular paving, concrete and ironworks. A realistic working life of around 15 minutes at 20 ° means that sufficient quantities can be mixed to allow productive workflow, while

keeping waste to a minimum. The absence of polymers, chemical admixtures and resin binders, also means **tuffset G** can be easily cleaned, and residual stains avoided.

Like all **tuffbau** mortars, **tuffset G** is fully compliant with BS 7533, meeting or exceeding all of the Standard's rigorous requirements for low elastic modulus, high adhesion bond and all-round performance.

Adhesion bond in British Standards for pavement construction is 2 N/mm² and **tuffset G** achieves consistently more than 3 N/mm². Adhesion is key to any successful repair or early trafficking of modular paving and **tuffset G's** final strength is similar to standard mortar, showing no downside to its very rapid early strength gain, and the stiffness modulus is similar to other products in the **tuffbau** range.



Tuffset G Technical Performance (at 20°C)

	tuffset G for jointing or priming	Mixed 1:1 for concrete repairs	Mixed 1:2 for rapid strength	Mixed 1:4 for overnight strength gain
Compressive strength gain				
- 1 hour	~ 17 N/mm ²	~ 27 N/mm ²	~ 15 N/mm ²	~ 10 N/mm ²
- 2 hours	~ 23 N/mm ²	~ 34 N/mm ²	~ 19 N/mm ²	~ 12 N/mm ²
- 3 hours	~ 24 N/mm ²	~ 37 N/mm ²	~ 20 N/mm ²	~ 15 N/mm ²
- 1 day	~ 40 N/mm ²	~ 50 N/mm ²	~ 30 N/mm ²	~ 25 N/mm ²
- 28 days	~ 58 N/mm ²	~ 70 N/mm ²	~ 40 N/mm ²	~ 40 N/mm ²
BS7533 requirement	~ 40 N/mm ²	~ 35 N/mm ²	~ 35 N/mm ²	~ 35 N/mm ²
Adhesion bond final strength				
- 28 days	~ 3 N/mm ²	~ 3 N/mm ² with tuffset G used as primer ~ 1 N/mm ² without		
BS7533 requirement	~ 2 N/mm ²	~ 1 N/mm	~ 1 N/mm	~ 1 N/mm
Flexural strength				
- 3 hours	~ 4 N/mm ²	~ 4 N/mm ²	~ 4 N/mm ²	~ 3 N/mm ²
- 1 day	~ 7 N/mm ²	~ 6 N/mm ²	~ 6 N/mm ²	~ 5 N/mm ²
BS7533 requirement	~ 4 N/mm ²			
Elastic modulus				
- 28 days	~ 23 kN/mm ²	~ 18 kN/mm ²	~ 18 kN/mm ²	~ 18 kN/mm ²
BS7533 requirement	16-24 kN/mm ²	15-21 kN/mm ²	15-21 kN/mm ²	15-21 kN/mm ²
Shrinkage				
	< 0.1%	< 0.1%	< 0.1%	< 0.1%
Permeability				
EN 12697-19				~ 18.5 * 10 ⁻⁴ m/s

Tuffset G COLD WEATHER Technical Performance (3°C)

Compressive strength gain				
- 4 hours	~ 19 N/mm ²	~ 27 N/mm ²	~ 15 N/mm ²	~ 10 N/mm ²
- 6 hours	~ 23 N/mm ²	~ 34 N/mm ²	~ 19 N/mm ²	~ 12 N/mm ²

At 3°C the setting process is retarded, though after it begins, it continues very intensively

Bedding Mortar

To use as a high-speed early strength gain bedding mortar – mix **ONE** sack of **tuffset G** with **TWO** sacks of **tuffgrit** aggregate. Suitable for three-hour trafficking at 20 °C.

For an overnight solution, with a slightly less rapid strength gain, mix **ONE** sack of **tuffset G** with **FOUR** sacks of **tuffgrit** aggregate.

Bonding mortar

Add water to **tuffset G** and use a mixing paddle to produce a thick, high adhesion slurry paste, that can be applied with a trowel or stiff brush

Jointing mortar

Add water to **tuffset G** and use a mixing paddle or forced action mixer to produce a highly plastic, just-pourable jointing grout.

Emergency concrete repair

Mix **ONE** sack of **tuffset G** with **ONE** sack of **tuffgrit** aggregate to execute a concrete repair with stiffness modulus, compressive and flexural strength compatible with pavement quality concrete C32/40.

