

Technical information for “tuffset[®] G” single solution system mortar

SteinTec[®] tuffset[®] G is a revolutionary high performance, pure hydraulically bonding mortar.

Exceptional early strength gain and outstanding all-round performance put tuffset[®] G ahead of alternative products such as epoxy mortar and resin-based repair products in terms of economy, ease of use and even ultimate performance.

Advantages:

Ease of use – tuffset[®] G is a pure hydraulic mortar, there are no chemical additives, no gauging liquids, just add water and mix whatever quantity is required, however small.

Ease of use – tuffset[®] G is a “single product” solution. Emergency works and night repairs under poor lighting benefit from “one bag” methodology.

Ease of use – a realistic working life allows for mixing and use of reasonable quantities on site, resulting in reduced wastage and more productive labour.

Ease of use – with no chemical admixtures, no polymers or resin binders, tuffset[®] G is easy to clean and leaves no lasting stains. This is an essential requirement for modular pavement construction.

Ease of use – water is all you need; water is the only additive, water is all that is needed for cleaning.

Health & Safety – reduced exotherm and absence of chemical admixtures reduces risks to operatives.

Economy – tuffset[®] G is an affordable solution, as never before possible for a rapid strength gain mortar.

Performance – designed for the installation and repair of modular paving, sufficient strength gain for full traffic loading is typically reached in 3 hours or less.

Performance – The most demanding requirement for adhesion bond in British Standards for pavement construction is 2 N/mm². tuffset[®] G achieves consistently more than 3 N/mm². Adhesion bond is a key performance criterion for the successful repair and early trafficking of modular paving.

Performance – Despite such impressive early strength gain, final strength is similar to standard mortar and stiffness modulus is similar to the other products in the SteinTec range of pavement mortars.

Performance – BS7533 compliant – low elastic modulus, high adhesion bond and all performance criteria demanded by British Standards are fully complied with by tuffset[®] G

tuffset[®] G in use:

Bedding mortar – mix one bag of tuffset[®] G with 2 bags of SteinTec standard bedding aggregate blend to produce an easy to use, traditional granolithic pavement bedding mortar.

Bonding mortar – just add water to tuffset[®] G to produce a high adhesion slurry paste.

Jointing mortar - just add water to tuffset[®] G to produce a highly plastic, free-flowing jointing grout.

Emergency concrete repair - mix one bag of tuffset[®] G with one bag of SteinTec standard bedding aggregate blend to produce a concrete repair having stiffness modulus, compressive and flexural strength compatible with pavement quality concrete C32/40

Early strength gain:

Bedding mortar - 1 part tuffset[®] G mixed with 2 parts aggregate at 20°C:

Compressive strength after 1 hour	15 N/mm ²
Compressive strength after 2 hours	19 N/mm ²
Compressive strength after 3 hours	20 N/mm ²
Compressive strength after 4 hours	30 N/mm ²

Jointing mortar - tuffset[®] G used as a slurry grout at 20°C:

Compressive strength after 1 hour	17 N/mm ²
Compressive strength after 2 hours	23 N/mm ²
Compressive strength after 3 hours	24 N/mm ²
Compressive strength after 4 hours	26 N/mm ²
Compressive strength after 1 day	40 N/mm ²

Concrete repair - 1 part tuffset[®] G mixed with 1 part aggregate at 20°C:

Compressive strength after 1 hour	27 N/mm ²
Compressive strength after 2 hours	34 N/mm ²
Compressive strength after 3 hours	37 N/mm ²
Compressive strength after 4 hours	40 N/mm ²

Cold weather working – jointing grout tested at only 3°C

Initial setting time is retarded but after 3 hours the curing process accelerates rapidly:

Compressive strength after 4 hours	19 N/mm ²
Compressive strength after 6 hours	23 N/mm ²

Design strength & compliance with Standards:

28 day laboratory results, in relation to the latest British Standards are as follows:-

For use as bedding mortar, 1 part tuffset[®] G mixed with 2 parts aggregate):

Compressive strength	>39 N/mm ²	(requirement = 35 N/mm ² EN1015-11)
Flexural strength	> 7 N/mm ²	(requirement = 4.0 N/mm ² EN1015-11)
Adhesion strength	> 1 N/mm ²	(requirement = 1.0 N/mm ² EN1015-12)
Modulus of Elasticity	16,000 - 17,000	(requirement 14,500 – 21,500 N/mm ² EN13412)
Shrinkage	0.1%	(requirement = 0.1% EN445)

tuffset[®] G used as priming mortar (bedding mortar together with a layer of liquid tuffset[®] G applied):

Adhesion strength	> 3.1 N/mm ²	(requirement = 2.0 N/mm ² EN1015-12)
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tuffset[®] G alone used as a slurry grout jointing mortar:

Compressive strength	>58 N/mm ²	(requirement = 45 N/mm ² EN1015-11)
Bending strength	> 9 N/mm ²	(requirement = 7.5 N/mm ² EN1015-11)
Adhesion strength	> 3.1 N/mm ²	(requirement = 1.5 N/mm ² EN1015-12)
Modulus of Elasticity	22,000 - 24,000	(requirement 16,000 - 24,000 N/mm ² EN13412)
Shrinkage	0.1%	(requirement = 0.1% EN445)

SteinTec[®] mortars are resistant to frost and anti-freezing chemicals.

SteinTec[®] tuffset[®] G complies with or exceeds the performance requirements of BS7533-7 & BS7533-12 for the rigid construction of modular pavements

SteinTec[®] tuffset[®] G is supplied as a pre-mixed dry product packed in moisture resistant bags.

Storage life 6 months in dry conditions.

tuffset[®] G is especially suited for "difficult" tasks such as replacing damaged joint mortar, infilling of recessed manhole covers and where very early trafficking is a requirement.

SteinTec[®] tuffset[®] G is available in 3 standard colours: Natural Grey; Mid Grey and Dark Grey

SteinTec[®]
728 London Road
West Thurrock
Grays, Essex
RM20 3LU

'phone: 01708 860 049
fax: 01708 860 893
Email: info@steintec.co.uk
website: www.steintec.co.uk