

Q25 Slab/ brick/ sett/ cobble pavings

The following clauses:

125a
305c
350a
360

comprise a full specification for the construction of a rigid pavement using porcelain tiles over a bituminous roadbase.

This specification is suitable for pedestrian and light vehicular traffic loading conditions and is reliant on a sufficiently stiff roadbase.

Compressible movement joints are recommended at intervals of 6-8m to prevent buckling as a result of thermal stress and cracking as a result of thermal strain in the pavement.

The following variables, highlighted in red within the text, may be altered according to specific project and construction site requirements:-

Clause 305a:

Thickness: Target depth to be 50 mm.

Note: A reduction in depth will be less resilient to load and more reliant on a stiff roadbase.

30 mm is a useful minimum target depth, for it allows for errors in setting out of as much as ± 10 mm without compromising the thickness of the bedding mortar course. SteinTec bedding mortar may be laid at a greater nominal depth, if desired, typically when creating falls at the surface over a level roadbase.

A bedding depth greater than 70 mm is normally addressed by first laying a screed bed of **tuffbed** which is densified using a vibratory plate compactor, this may be overlaid the following working day.

Clause 360:

125a **ADVERSE WEATHER:**

- Temperature: Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 2°C on a rising thermometer.
- Frozen roadbase: Do not lay upon a roadbase surface which has not been protected from temperatures below 2°C for at least 24 hours prior to use.
- Frozen materials: Do not use. All materials must have been protected from temperatures below 2°C for at least 24 hours prior to use.
- Frozen water: Do not use. All water used for mixing mortars must be at a temperature not less than 2°C.
- Do not apply jointing mortars when ambient temperature exceeds 25°C and is rising.
- Protect fresh mortar joints and/or bedding mortar from frost and rapid drying out until mortar has cured.

305c **PROPRIETARY MORTAR BEDDING OF FLAGS & SLABS (BS 7533-12):**

- Material:
 - "SteinTec **tuffbed 2-pack**" water permeable bedding mortar.
 - "SteinTec **tuffbond**" priming mortar.
- **Thickness: Target depth to be 50 mm.**
- Thickness: Maximum range 20 mm minimum to 70 mm maximum.
- Follow manufacturer's instructions for mixing and application.
SteinTec, 1 Northwick Road, Canvey Island, Essex, SS8 0PU.
Tel: 0203-598-9800 Email: info@steintec.co.uk
- Consistency of **tuffbed 2-pack** bedding mortar:
 - Add sufficient water to achieve a 150 mm slump
- Consistency of **tuffbond** priming mortar:
 - Mix to a free flowing liquid slurry
- Laying:
 - All work must be carried out on the side of the unlaied face, at no time shall operatives stand, work or rest materials on freshly laid paving.
 - The surface of the roadbase or supporting structure must be thoroughly cleaned.
 - The surface of the concrete roadbase or supporting structure is to be overlaid with a polypropylene geogrid reinforcement mesh of at least 20kN tensile strength and 40mm grid aperture, not to be fixed to the base. Bedding mortar to be laid directly on to mesh.
 - Bedding mortar must not be laid in advance of more than 1 row of paving elements.
 - Bedding mortar must be laid to a surcharge height of not less than 6 mm.

- The underside of paving elements is to be coated with "SteinTec **tuffbond**" priming mortar to a minimum thickness of 1.5 mm immediately prior to sett being placed on bedding mortar. Priming mortar may be applied by brushing on or by dipping the paving elements into a shallow receptacle containing priming mortar.
- Priming mortar shall not be applied more than one minute prior to paving elements being laid upon bedding mortar.
- Paving elements to be positioned firmly to line and level immediately, thereafter not to be disturbed.
- Cleaning of paving elements during laying:
 - All mortar contamination must be removed from the surface of freshly laid paving immediately, using clean water and a sponge.
- Cleaning of areas of freshly laid paving following laying:
 - Areas of freshly laid paving to be thoroughly rinsed with clean water at the end of a working shift.

350a JOINTING OF MORTAR BEDDED PAVING (BS 7533-12):

- Material:
 - "SteinTec **tufftop**" jointing mortar.
- Follow manufacturer's instructions for mixing and application.
SteinTec, 1 Northwick Road, Canvey Island, Essex, SS8 0PU.
Tel: 0203-598-9800 Email: info@steintec.co.uk
- Preparation:
 - Joints must be clean and clear of all foreign matter
 - The area to be jointed must be thoroughly soaked with clean water and maintained in a wet condition until jointing mortar is applied.
 - Consistency of mortar:
 - Mix to a free flowing liquid slurry grout.
 - Jointing:
 - Freshly mixed mortar is spread over the surface and forced into joints using a suitable rubber/neoprene squeegee.
 - Mortar is allowed to settle in joints and fresh mortar is drawn across the surface repeatedly until joints are full and settlement has ceased.
 - Water may be applied to the surface at any time in the form of a fine spray, to prevent drying of the mortar on the surface.
 - Cleaning of paving elements following jointing:
 - Excess mortar is removed using a suitable rubber/neoprene squeegee.
 - Water is applied to the surface in the form of a fine spray, taking care not to disturb the mortar in the joints, until the surface is wet.
 - Water and excess water is removed using a suitable rubber/neoprene squeegee.
 - Process repeated: Water is applied to the surface in the form of a fine spray, taking care not to disturb the mortar in the joints, until the surface is wet.
 - Process repeated: Water and excess water is removed using a suitable rubber/neoprene squeegee.
 - The surface is maintained in a damp condition by periodic application of water in the form of a fine spray.
 - The surface may be rinsed clear with clean water after sufficient time has elapsed for joint mortar to have become sufficiently stable to resist action of cleaning.

360 PROTECTION AND QUARANTINE FOR FRESHLY JOINTED PAVING:

- Freshly jointed areas must be protected from vehicular traffic until **bedding mortar has gained not less than 30 N/mm² compressive strength and jointing mortar has gained not less than 25 N/mm²**. Mortar cubes for testing shall be cured on site in unprotected conditions.
- Non-HGV trafficking may be permitted after quarantine of one day following jointing, providing the minimum strength gain requirements for bedding mortar have been passed.
- Pedestrian trafficking may be permitted on the next day following jointing.
- Materials storage: Do not overload pavings with stacks of materials until the quarantine period for vehicular trafficking has passed.
- Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.