

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 natural stone slabs or pre-cast concrete paving flags over a concrete roadbase.

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 35 mm.

Note: 35 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:

bedding mortar has gained not less than 30 N/mm²

Note: 30 N/mm² is relevant to heavily trafficked areas. A lower value may be used for other situations, typically 20 N/mm² for areas subjected only to non-HGV traffic and 15 N/mm² for purely pedestrian areas.

and jointing mortar has gained not less than 25 N/mm²

Note: 25 N/mm² is relevant to heavily trafficked areas. For areas subjected only to non-HGV traffic or purely pedestrian areas it is normal to specify only a period of quarantine time following jointing, as stated in clause 360, and a minimum strength requirement for jointing mortar may be omitted.

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 30 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 unladen 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 coated with "SteinTec **tuffbond**" priming mortar to a minimum thickness of 1.5 mm immediately prior bedding mortar being laid. Priming mortar may be applied by brushing on.

- 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 **tuffset G permeable**" 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 moist consistency.
 - 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.