

TP RESIN SF
RESIN BINDER FOR RESIN BOUND PAVING & TREE PIT SURFACING

DESCRIPTION

TP RESIN SF is a high performance, two- component, UV stable resin binder for use in resin bound stone systems. It is suitable for pedestrian and light vehicle loading on driveways, footpaths and similar areas.

This clear polyurethane resin binder is resilient and tough with a degree of flexibility. The cured material exhibits good strength and is non-yellowing.

DESIGN GUIDELINES

This binder is used typically with stone granules in the size range 1 – 6mm although stone outside this size range can be used for added strength or added permeability in tree pits. It can also be used with pigmented stone and glass for more colourful effects. In the case of glass a special grade of the binder is available.

In designing resin bound paving the stone type and grading, the loading and the drainage requirements must be determined by the user. The supplier is responsible only for the quality and performance of the binder, TP Resin SF.

The following is provided to assist the user and is basic information common to most systems:

1. Resin bound paving should be applied over a sound base of either concrete or bitumen macadam. Tree pit surfacing should be designed for application over compacted free draining materials.
2. The thickness, binder content, free draining characteristics and stone type and grading must be decided upon by the user.
3. In order to achieve satisfactory compaction a thickness of at least 3 x max stone size is advised for stone up to 6mm in size. This can be reduced to 2 1/2 x max stone size for larger stone in a graded mix with a maximum stone size of 10mm advised. The minimum thickness of tree pit surfacing is 45mm.
4. A mix with a well graded stone is usually capable of sustaining higher loads than one with poorly graded stone.
5. A mix that is not closely graded will drain better due to its higher voids content.
6. The binder content for surfaces that are unloaded and purely decorative will be relatively low. Those for loaded surfaces supporting vehicles with power steering would be relatively high. More binder is required when fine material is used such as sand.

7. When paving is laid on a slope or when a rounded stone is used it may be necessary to apply a surface scatter of high friction grit to improve the frictional characteristics and avoid a slip hazard.

SURFACE PREPARATION

General

The substrate should be relatively even in order to achieve the minimum thickness of surfacing at all locations. It should be sound and should not move when loaded.

Concrete Substrate:

It is recommended that concrete is at least 28 years old although this can be reduced in the case of some polymer modified concretes. Remove all contamination including oils and greases, laitance, algae, moss, etc. Remove any dust by vacuuming.

Dry thoroughly and prime if substrate is permeable.

Bituminous Substrate:

Remove all contamination including oils and greases. Sweep clean to remove any dust. Dry thoroughly.

Tree Pits

Tree pit surfacing sits over a layer of compacted free draining fill and possibly a layer of geotextile. The surface must be even and at the correct level to lay the required thickness of tree pit surfacing.

MIXING AND APPLICATION

Ambient temperature should be between 5°C and 35°C during application and cure. The substrate should be dry and there should be no threat of rain, snow or hail before or within 2 hours of application. All raw materials must be bone dry and there should be no possibility of dew forming on the surface of stone or condensation taking place inside the pallets of stone.

Stone Granules

It is most important that stone granules are dry and free from excessive dust. Each bag should be checked before use.

Place the required weights of stone into a mixer and commence mixing

Resin Binder

TP RESIN SF is normally supplied in pre weighed packages in weights specified by the user. Stir TP Resin SF Pack B well and pour into a container. Add Pack A and mix together until homogeneous (about 2 mins). Use without delay.

Binder & Stone

Pour mixed TP Resin SF on to stone. Mix for a minimum of 1 minute ensuring stone is evenly coated.

Application

The application area must be contained in order to support the mixed material before it cures. In a tree pit this will typically take the form of a kerb and a temporary or permanent collar around the trunk (to allow for growth).

Apply immediately to prepared area. Either tamp down or finish with a trowel. Apply high friction scatter where specified without delay.

COVERAGE RATE

Coverage rate varies with depth, stone type and stone size. As an example for a 16mm thick paving with 7% TP Resin SF every 25kg bag of stone will need 1.9kg of TP Resin SF. This will be sufficient for about 0.95m².

PACKAGING

Pack sizes are determined by the users design and mix size. Both Packs A and B are pre- weighed and delivered in lever lid plastic containers. If required supplies can also be made in 50kg units for potting off by weight on a user's premises or site.

TECHNICAL PROPERTIES OF BINDER

Pot Life 20°C: Cure @20°C: Tensile Strength

Elongation at break

20 minutes 3.0 – 4.0 hours 3.01 N/mm² (7day) 5.38 N/mm² (3mths)

55.90% (7days) 36.33% (3mths)

HEALTH AND SAFETY

Refer to safety data sheets before use. It is imperative that the requirements of safety data sheets are understood and followed to the letter.