KingSeal® EP50

Semi-flexible epoxy control joint filler.

DESCRIPTION

KingSeal EP50 is a 100% solids, two-component, self-levelling semi-flexible control joint filler and crack repair material.

KingSeal EP50 is a chemical curing joint filler, with a 1:1 mixing ratio by volume, giving it ideal characteristics for ease of application in control (saw cut) joints.

APPLICATIONS

- For contraction/control joints that are saw cut or preformed.
- To fill joints in industrial floors exposed to hard wheeled traffic.
- Repairing concrete slabs that have experienced random cracking due to shrinkage.

ADVANTAGES

- Pourable consistency.
- Prevents deterioration of joint edges.
- Shock absorbent and durable, withstands wheel traffic and heavy loads.
- Excellent adhesive properties, requires no primer.
- Semi-flexible, allows for moderate joint movement.
- Remains semi-flexible, does not harden with age.

STANDARDS

Conforms to the requirements of ACI 302.1R (Joint Materials).

METHOD OF USE

SURFACE PREPARATION

The surface must be clean, sound, free from oil, grease. Remove dirt, laitance, grease, curing compounds, bond inhibiting impregnations, waxes and any other contaminants.

Concrete surface may be dry or damp, but must be free of standing water. Use clean compressed air to blow out any remaining dust or debris prior to installation. In older concrete, the old joints must be routed out to remove old material and widen, if necessary.

TECHNICAL PROPERTIES

Colour:	Concrete grey
Mixing ratio:	1:1 by volume
Mixed density:	1.45 ± 0.1 g/ml
Viscosity:	Pourable
Gel time:	40 min @ 25°C
Tack free time:	3.5 - 5 hr
Elongation at break: ASTM D638	60 ± 10% @ 7 days
Tensile strength: ASTM D638	≥ 2.5 MPa @ 7 days
Shore A Hardness: ASTM D2240	80 ± 5 @ 7 days
Water absorption: ASTM D570	≤ 0.4%

MIXING

KingSeal EP50 comprises of two components, a resin base and a hardener, which are supplied in 1:1 proportions by volume. Proportion equal parts by volume of the base and hardener into clean bucket.

Mix thoroughly for 3 minutes with a low speed (400 - 600 rpm) drill fitted with proper mixing paddle, until uniform colour is achieved. Mix only the quantity that can be applied within its gel time.

CONSUMPTION IN JOINTS

(Linear meter per 1 litre, including 10% wastage)

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WIDTH/ DEPTH	3 mm	5 mm	10 mm	15 mm	20 mm	25 mm
10 mm	30.0	18.0	9.0	6.0	4.5	3.6
15 mm	20.0	12.0	6.0	4.0	3.0	2.4
20 mm	15.0	9.0	4.5	3.0	2.2	1.8
25 mm	12.0	7.2	3.6	2.4	1.8	1.4
30 mm	10.0	6.0	3.0	2.0	1.5	1.2
35 mm	8.5	5.1	2.5	1.7	1.2	1.0
40 mm	7.5	4.5	2.2	1.5	1.1	0.9
45 mm	6.6	4.0	2.0	1.3	1.0	0.8
50 mm	6.0	3.6	1.8	1.2	0.9	0.7

APPLICATION

If the joint depth exceeds 5 cm, use a backer rod to limit the depth of the joint filler to 5 cm. Fine clean sand may be used to close off small shrinkage cracks in the bottom of joints prior to placement of KingSeal EP50.

In accordance with ACI 302, semi-rigid epoxy fillers should be installed full depth in saw cut joints and at least 2.5 cm deep in formed joints.

KingSeal EP50 can be installed with a barrel gun or poured into the joint from a suitable container. Two passes may be required, as pourable leveling materials will settle in the joint. The second pass must be made within 12 hours at 25°C.

The filled joint should be flush with the floor surface. It is recommended to use masking tape on each side of the joint to maintain a clean and uniform joint sides. Remove the masking tape directly after the material settles in the joint.

Alternatively, another installation technique is to overfill the joint. Best practice is to allow KingSeal EP50 to cure overnight (around 24 hours) before shaving. Cut KingSeal EP50 flush with a sharp razor so that the top surface is flush with the surface of the concrete that define the control joint.

An industrial heating gun or torch may be required to soften cured resin before shaving. Apply heat for 10 - 15 seconds. Strike-off flush with the floor surface and remove any excess material where required before it hardens.

ACI 302 recommends filling and sealing of the joint is deferred as long as possible to minimize the effects of shrinkage-related joint opening on the filler or sealant.

If concrete shrinkage-related openings do occur, KingSeal EP50 can be reapplied.

WORKING CONDITIONS

KingSeal EP50 should not be applied at temperatures below 5°C. When exposed to temperatures over 35°C it will have a shorter pot and working life.

LIMITATIONS

- Do not thin KingSeal EP50. Addition of solvents may prevent proper cure.
- For best results, materials should be maintained between 20 – 25 °C during application
- Not designed for use in expansion (moving) joints. For application in non-moving joints only.
- KingSeal EP50 should be installed full depth when sealing construction/control joints.
- ACI 302.IR recommends a minimum of 3 months for all semi-rigid epoxies. The longer the time period allowed, for curing of the concrete prior to installation of KingSeal EP50, the better the performance.
- Epoxies may yellow or discolour upon exposure to strong sources of UV radiation such as from sunlight,and some types of industrial artificial lighting. However, this will not heavily effect the performance of the material.

CLEANING

All tools should be cleaned immediately after finishing by KINGKRETE solvent. Hardened material should be removed mechanically.

PACKAGING

KingSeal EP50 is available 7.6 litre kit (3.8 litre base and

3.8 litre Hardener) and 30 litre kit (15 litre base and 15 litre hardener).

KingSeal EP50 is also available in easy to apply co-axial cartridges of 250 ml.

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STORAGE

Shelf life is 1 year when stored under cover, out of direct sunlight and protected from extremes of temperature.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult KingKrete's Technical Services Department.

HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Reseal containers after use. Use in well ventilated areas and avoid inhalation.

NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local KingKrete representative. KingKrete Inc. reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All products originating from KingKrete's Middle East facility are manufactured under a management system independently certified to conform to the requirements of the quality standards ISO 9001, ISO 14001 and ISO 45001.

* Properties listed are based on laboratory-controlled tests.
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NOTE

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