KingSeal® PS300

Elastomeric high-performance cold-applied fuel resistant pavement joint sealant.

DESCRIPTION

KingSeal PS300 is a two-component, chemical curing, cold applied, fuel and oil resistant pitch-free polysulphide sealant designed for use in all types of concrete pavement joints and specifically for sealing joints in airport pavement construction. KingSeal PS300 has excellent adhesion properties to asphalt substrates.

APPLICATIONS

KingSeal PS300 is designed for:

- Sealing all types of joints in airport runways and aprons.
- Sealing all types of joints in car parks and traffic decks.
- Sealing of all types of joints in warehouses, oil terminals, docks, and harbours.
- Sealing all types of joints in sewage treatment plants.
- Suitable for horizontal joints only.

ADVANTAGES

- Pitch-free
- Fuel and oil resistance.
- Cold applied chemical curing sealant.
- Suitable for all climate conditions, weathering, and UV resistance.
- Suitable for manual and machine processing
- Excellent movement accommodation.
- Pourable and self-leveling.
- Good chemical resistance to a wide range of mild
- alkalis, diluted acids, and solvents.

STANDARDS

US Federal Specification SS-S-200E:1984.

» British standard 5212:1990, Type N, F and FB.

» ASTM C920, Type M, Grade P, Class 25, Use NT, T1, M and I.

METHOD OF USE

Substrate Preparation

Concrete surfaces must be sound, dry, dimensionally stable, and fully cured (not subject to shrinkage). All surfaces should be clean of dirt, laitance, bitumen, foreign matter, and curing compounds. Substrate should be free from oil, grease, dust or, any contamination

TECHNICAL PROPERTIES

Colour:	Black and grey
Mixed density:	1.45 ± 0.05 g/cm³
Solid content:	100%
Application temperature:	5 to 40°C
Pot life:	80 - 90 min @ 25°C
Movement accommodation:	25%
Curing time:	Chemical cure
Tack free time:	4 - 5 hr
Service temperature:	-40 to 90°C
Shore A hardness: ASTM D2240	≥ 25 @ 7 days
Elongation at break: ASTM D412, Die C	≥ 290% @ 7 days
Tensile strength: ASTM D412, Die C	≥ 0.50 MPa @ 7 days
VOC:	< 50 g/ltr

Chamfer the joint edges with a face width of 3 to 10 mm. After cleaning, a backing rod of an appropriate size should be placed in the joint to the required depth to ensure proper layer thickness and prevent three-point adhesion. Care should be taken not to puncture the backing rod during installation as punctures might create bubbling.

PRIMING

KingSeal Primer Universal is a low viscosity single component primer suitable for use with porous and non-porous surfaces. It is recommended to be used for substrates such as concrete and asphalt as well as others.

Using a small brush apply one thin coat at the joint sides and avoid over priming. Apply the mixed KingSeal PS300 sealant while the primer is still tacky to achieve optimum adhesion strength.

MIXING

To ensure proper mixing, a mechanically powered mixer should be used. KingSeal PS300 is supplied in two components, Part A and Part B, with a mixing ratio of 5:1. The full quantity of the two components must be mixed thoroughly for 3 - 5 minutes.

APPLICATION

KingSeal PS300 should be applied using a suitable pump system with a 5:1 mixing ratio by volume. Refer to the

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pump manufacturer recommendations for application and inject the sealant with a continuous, smooth action starting at the bottom of the joint to the top.

Alternatively, the mixed sealant can be applied into the primed joints using an air-powered sealant gun, the sealant should be loaded into the gun after removing the cap and pulling back the plunger rod. Inject the sealant with a continuous, smooth action starting at the bottom of the joint to the top.

KingSeal PS300 is self-leveling and does not require finishing. The finished level of the sealant is recommended to be recessed below the trafficked surface as insufficient recess can expose the sealant to vehicle tires which might cause damage over time.

JOINT SIZE SUITABILITY

Joint width*:

- 10 mm (minimum).
- 50 mm (maximum in trafficked areas).
- 10 mm minimum.
- 25 mm maximum.

Width: Depth ratio**

- 2:1

* For wider joints please consult KINGKRETE Technical Department.

** Within above min/max restrictions.

Performance Characteristics in accordance with SS-S-200E		
Self-leveling:	On plane level	< 3.2 mm (pass)
Self-leveling:	With 1.5% inline	< 1.6 mm (pass)
Change in mass by fuel immersion:	< 2% (pass)	
Accelerated aging:	Pass	
Change in volume on exposure to elevated temperatures:	< 5% (pass)	
Resilience:	Recovery	< 75% (pass)
Resilience:	Initial penetration	0.5 - 2.0 mm (pass)
Artificial weathering:	No surface softening Volume change < 5% (pass)	
Bond to concrete: (water immersed & non-immersed)	No cracking, separation or crazing (pass)	
Resistance to flame:	Pass	
Flow:	No evidence of cracking, sag or dimensional change (pass)	

REMARKS

- While mixing and injecting the material, ensure not to incorporate too much air.
- The curing speed depends on the temperature, as working in high ambient temperatures will cause the material to cure faster, while at low ambient temperature the material will take longer to cure.
- Application should not be undertaken if the temperature is below 5°C.

CLEANING

All equipment should be cleaned immediately after finishing using an appropriate solvent. Hardened sealants should be removed mechanically.

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PACKAGING

KingSeal PS300 is available in 4 ltr (5.8 kg), and 12 ltr (17.4 kg) kits.

KingSeal Primer Universal is available in 1, 4 and 20 ltr packs.

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.

CHEMICAL RESISTANCE Occassional spillage after full cure (7 days @ 25°C), ASTM D1308 (Spot - test @ 1 hr)	
Organic acids	
Citric Acid 25%	RS
Aqueous solutions	
Sodium Chloride sat	R
Tap water	R
Chlorinated water	RS
Dead sea water	R
Solvents	
White spirit	R
Xylene	R
Toluene	R
Acetone	R
Oils & fuels	
Brake fluid	R
Engine oil	R
Diesel	R
Kerosene	R
Jet fuel	R
Petro	R
Hydraulic oil	R
Mineral oils	R
Inorganic acids	
Sulphuric Acid 25%	RS
Hydrochloric Acid 10%	RS
Nitric Acid 10%	RS

R: Resistant RS: Resistant with slight discoloration SS: Slight softining

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.

SEALANT QUANTITY ESTIMATOR

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Joint size (mm) width x depth	Meters per litre
10 x 10	10.00
13 x 13	5.91
15 x 15	4.44
20 x 10	5.00
20 x 20	2.50
25 x 12	3.33
25 x 25	1.60
30 x 15	2.22
40 x 20	1.25
50 x 25	0.80

Note: actual consumption depends on the nature of substrate, method of application, and wastage.

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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Ref: KK-05020-MEA-R01 | Issue: 01.2026

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this KingKrete Inc. publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by KingKrete Inc. either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not KingKrete Inc. are responsible for carrying out procedures appropriate to a specific application.

KingKrete Middle East
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