KREVO Shield Polyurea

Pure polyurea waterproofing and protective membrane | Hot spray applied | Fast curing

PRODUCT DESCRIPTION

KREVO Shield Polyurea is specified as a two-component, rapid-reacting pure polyurea membrane for spray application to prepared concrete and steel. It forms a seamless, elastic, waterproof protective layer with abrasion and chemical resistance for demanding industrial and liquid-retaining structures. Application requires heated plural-component spray equipment operated by trained specialists.

ADVANTAGES

- Seamless spray-applied waterproofing membrane, including complex details.
- Very rapid gel and cure for shorter interruption and early return to service.
- Flexible membrane with crack-bridging capability and abrasion resistance.
- Good resistance to selected chemicals, water and de-icing salts.
- Suitable for concrete and steel protection, with high tensile strength and elongation.

TYPICAL USES

Industrial and manufacturing floors • Secondary containment • Water-retaining structures • Wastewater tanks, bunds and pits • Submerged and cut-and-cover structures • Walkways and parking decks • Hydraulic steel structures and truck-bed linings.

PRODUCT INFORMATION

PARAMETER	SPECIFICATION
Chemical base	Two-component pure polyurea
Appearance / colour	Grey, seamless elastomeric membrane
Mixing system	Heated plural-component high-pressure spray equipment
Typical coating thickness	Approximately 2 mm; subject to project system design
Nominal mix ratio	Component A (ISO) : Component B (resin) = 1 : 1
Nominal packaging	Component A: 200 L drum (225 kg); Component B: 200 L drum (205 kg)
Theoretical consumption	Approximately 1 kg/m² per mm of film thickness
Storage / shelf life	12 months in original unopened packs at +5 °C to +30 °C

TYPICAL TECHNICAL PROPERTIES

PROPERTY / TEST METHOD	TYPICAL VALUE
Shore D hardness | EN ISO 868	48
Tensile strength | ISO 527-1	17 MPa
Elongation at break | ISO 527-1	340%
Tensile adhesion to concrete | EN 1542	At least 1.5 MPa
Tear strength | ISO 34-1	Approximately 90 kN/m
Crack bridging | EN 1062-7	Class A4 (static) / B3.1 (dynamic)
Solid content by weight	Approximately 100%
Continuous dry-service range	−30 °C to +100 °C

Application & System Data

KREVO Shield Polyurea | Surface conditioning, spray configuration and application controls

APPLICATION PROPERTIES

PARAMETER	CONDITION	TYPICAL VALUE	NOTE
Mix ratio	A : B	1 : 1	Plural-component spray
Gel / full cure	At +23 °C	8-10 s / 24 h	Site conditions vary
Ambient / substrate	During spraying	+5 to +50 °C	RH ≤85%
Component temperature	A (ISO) / B (resin)	+60 to +80 °C	Calibrate equipment
Dew-point margin	Substrate / wet film	At least +3 °C	No condensation

Mixing accuracy, temperature and substrate conditions control the spray reaction. Establish approved plural-component settings and perform a trial application before commencing continuous production spraying.

TYPICAL SYSTEM & INSTALLATION SEQUENCE

STAGE	MATERIAL / METHOD
1 | Assessment	Verify structural soundness, exposure, membrane thickness and approved system.
2 | Surface preparation	Remove contamination; prepare concrete profile or blast-clean steel.
3 | Repairs & priming	Repair voids and cracks; apply KREVO Prime EP.
4 | Equipment setup	Condition drums and calibrate heated plural-component spray unit at 1:1 ratio.
5 | Membrane application	Spray continuously, verify thickness and overlaps, then inspect coverage.

SUBSTRATE QUALITY & PREPARATION

Concrete must be structurally sound (compressive strength at least 25 MPa and pull-off strength at least 1.5 MPa), free from weak concrete, laitance, oil, dust and existing incompatible coatings. Abrasive blast or mechanically prepare to an open-textured profile. Fill cracks and voids, repair defects and apply a compatible tested primer. Steel must be dry, clean and blast-prepared to the specified coating system.

SPRAY PARAMETERS & CONDITIONS

Spray in a continuous, even application with heated plural-component equipment to achieve approximately 2 mm nominal membrane thickness. Monitor component temperatures, pressure balance, mixing ratio, dew point, humidity and substrate condition during application.

INSTALLATION CONTROL	SPECIFIED REQUIREMENT
Nominal membrane thickness	Approximately 2 mm unless project system requires otherwise.
Concrete strength	Minimum 25 MPa compressive and 1.5 MPa pull-off.
Substrate moisture	Observe approved primer limits; no rising moisture.
Substrate dew point	Minimum 3 °C above dew point during application.
Recoat interval	Temperature- and system-dependent; observe approved maximum window.

The surface and uncured membrane must remain at least 3 °C above dew point. Confirm substrate moisture limits from the selected primer data sheet. Do not apply to rising-moisture substrates; keep the fresh membrane protected against liquid water and condensation.

COATING CONTINUITY & OVERCOATING

Apply the protective membrane uniformly, avoiding holidays, pinholes and local thin spots. Overcoating or UV-resistant finishing layers must follow the approved system and specified recoat interval. Colour change under sunlight does not by itself establish retained protective performance.

Installation & Product Support

KREVO Shield Polyurea | Heated spraying, inspection, curing, limitations and safety

MIXING & SPRAY APPLICATION

- Confirm approved surface profile and primer cure. Remove all contamination, dust and loose particles; check dew point and substrate dryness.
- Use calibrated heated plural-component spray equipment at a nominal Component A : Component B mix ratio of 1 : 1.
- Condition both components to the approved processing range; mix the resin component uniformly and monitor actual material temperatures.
- Spray evenly and continuously in controlled passes to the specified film thickness; check mixing, overlap and surface finish throughout.

CURING & RETURN TO SERVICE

- Typical gel time is 8-10 seconds under the stated reference conditions; do not use this as the sole criterion for reopening an area.
- Typical full cure is approximately 24 hours at +23 °C; verify readiness for water exposure, load and chemical service.
- Protect freshly sprayed film against condensation, damp and liquid water for at least 30 minutes after application.
- Inspect coating continuity, film thickness, bond, damage and details before putting the protected structure back into service.

LIMITATIONS & SERVICE NOTES

- Install only using trained spray personnel, suitable high-pressure equipment and appropriate personal protective equipment.
- Do not apply on unsound or contaminated substrates or over rising moisture; select a compatible, fully cured primer.
- Colour may change with UV/weathering. Specify a compatible UV-resistant topcoat where required by the exposure design.
- The stated chemical resistance is general: confirm the exact liquid, concentration, temperature and exposure duration.
- Avoid exposure to biogenic sulphuric acid unless separately qualified. Protect and inspect high-risk corners, joints and terminations.

HEALTH, SAFETY & ENVIRONMENT

Professional spray application only. Heated two-component isocyanate/polyurea systems can create hazardous vapours and aerosols. Review the current Safety Data Sheets, enforce respiratory protection and ventilation, prevent overspray and isolate personnel from the spray zone. Dispose of uncured materials and containers in accordance with local regulations.

QUALITY & PRODUCT INFORMATION

Specify the required system thickness, primer, substrate strength, coating continuity, adhesion and exposure resistance in the project method statement. Laboratory values and system suitability must be confirmed through KREVO product qualification and project-specific testing. Do not treat general chemical resistance as a substitute for an exposure assessment.

KREVO | GLOBAL CONTACTS

ENGLAND	UNITED STATES	CHINA
10 Shipley Avenue, Fenham Newcastle upon Tyne England NE4 9RA +44 7436 650806 info@krevo.uk krevo.uk	9209 S. Aeva Avenue Evergreen Park, IL 60805 +1 (773) 996-0846 info@krevo.us krevo.us	Office 235, 4th Floor No. 5 Inner China +86 139 5536 3625 krevo.cn