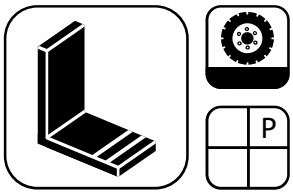
Installation guideline

Wecryl Surface Protection System OS 11b



Brief description

The Wecryl Surface Protection System OS 11 b is a high-quality, flexible PMMA coating system that has been tested in accordance with German guidelines and standards TR-Instandhaltung, DAfStb-RiLi SI 2001 and DIN EN 1504-2. The waterproofing system, comprised of an elastic surface protection layer (PESPL) and a crack-bridging covering layer, is therefore ideal as a surface protection layer with enhanced resistance to chemicals and improved cleaning properties for areas suitable for foot and vehicle traffic.

The surface can be created with a wide range of colours, patterns or markings. Its outstanding crack-bridging properties make the system an economical and high-quality solution for multi-storey car parks.

Properties and advantages

With Wecryl 271 as PESPL

- Highly flexible and crack-bridging even at temperatures as low as -20 °C (crack-bridging class B 3.2)

With Wecryl 279 as PESPL

- Highly flexible and crack-bridging even at temperatures as low as -30 °C (Class B 4.2 – dynamic crack bridging as per DIN EN 1062-7) (Class A 5 – static crack bridging as per DIN EN 1062-7)

With either of these PESPL alternatives

- Class OS 11b approval according to the guideline for the protection and repair of concrete components issued by the German Committee on Reinforced Concrete (DAfStb), October 2001
- Tested in accordance with class OS 11b as defined by German standard TR-Instandhaltung
- No embedded fleece or mesh required if laid in accordance with TR-Instandhaltung
- Very high resistance to chemicals such as petrol (72 hours)
- Water vapour permeability, Class 1: S_D < 5 m
- Suitable for heavy duty (vehicles, foot traffic)
- Fully bonded to the substrate, therefore no flow paths underneath for water
- Can be applied to almost any substrate
- Permanently weather-resistant (resistant to high and low temperatures, UV rays, hydrolysis)
- Resistant to most commonly used acids and alkali solutions
- Wide range of design options (colour finish, road markings etc.)
- Solvent-free
- Fast and easy application

Areas of application

- Surface protection and waterproofing of concrete structural components with near-surface and/or separating cracks and regular mechanical stress
- Foot and vehicle traffic
- Intermediate decks and floor slabs of car parks

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Application conditions

Temperatures

The system can generally be applied within an ambient temperature range between min. 3 °C and +35 °C. Some products are also suitable for application at sub-zero temperatures. Please refer to the table below for exact details.

	Temperature range, in °C		
Primer layer	**Air**	**Substrate***	**Material**
Wecryl 171	+3 to +35	+3 to +50*	+3 to +30
Wecryl 178	+3 to +35	+3 to +50*	+3 to +30
Wecryl 123 K	0 to +35	0 to +30*	+3 to +30
Waterproofing of details			
Wecryl R 230	-5 to +35	+3 to +50*	+3 to +30
WeFleece			
Waterproofing of main area/ PESPL			
Wecryl 271	-5 to +35	+3 to +40*	+3 to +30
Wecryl 279	-5 to +35	+3 to +40*	+3 to +30
Wearing layer			
Wecryl 419	-5 to +35	+3 to +35*	+3 to +30
Wecryl 409	-5 to +40	+3 to +45*	+3 to +35

* The substrate temperature must be at least 3 °C above the dew point during application and curing.
The substrate temperature must not be less than +3 °C if a topping is applied to the surface. Curing problems can occur at lower temperatures.

Humidity and moisture

The relative humidity must be ≤ 90 %.
The surface to be coated must be dry and free of ice.
The surface must be protected from moisture until the coating has hardened.

Application rates and curing times

	Application rate [kg/m²]		
Primer layer	Smooth substrate	Fine-sandy	rough
Wecryl 171	Approx. 500 g/m²	*	*
		**	**
Wecryl 178	Approx. 500 g/m²	*	*
		**	**

* Roughness heights must be determined in accordance with RiLi-SIB (determination of roughness height) and an additional operation may be required to level out or smooth over the surface.
** In the case of roughness heights > 1.5 mm we recommend levelling out problem areas with Wecryl 123 K.

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Application rates and curing times (continued)

Waterproofing layer	Waterproofing of details*		
Wecryl R 230 thix	At least 2.50 kg/m²		
WeFleece	Approx. 1.05 m²/m²		

Principally effective surface protection layer	Waterproofing of details	Waterproofing of main area (PESPL)	
Wecryl 271		At least 2.5 kg/m²	
Wecryl 279 (without embedded fleece)		At least 2.8 kg/m²	
Wecryl 279 (with embedded fleece)		At least 2.7 kg/m²	
WeFleece		Approx. 1.05 m²/m²	

Wearing layer		
Variant A	On top of the main area waterproofing	
Wecryl 419 (pre-filled)	Approx. 3.5 kg/m²	

Variant B	On top of the main area waterproofing	
Wecryl 409 (topping layer)	at least. 0.85 kg/m²	
Wecryl 409 (top sealer)	at least 0.8 kg/m²	

*Waterproofing of all details (e.g. wall junctions, joints) uses fleece-reinforced waterproofing with WestWood Wecryl R 230 thix, including WeFleece.

	Curing time (approx. values at 20 °C)			
	Pot life	**Rain-proof**	**Overlayable**	**Fully cured**
Wecryl 171	10 min	30 min	30 min	2 hours
Wecryl 178	10 min	30 min	30 min	2 hours
Wecryl 123 K	12 min	30 min	60 min	3 hours
Wecryl 271	15 min	30 min	1 hours	3 hours
Wecryl 279	15 min	45 min	1.5 hours	3 hours
Wecryl 419	12 min	30 min	45 min	2 hours
Wecryl 409	12 min	30 min	60 min	3 hours
Wecryl R 230 thix	15 min	30 min	1 hours	3 hours

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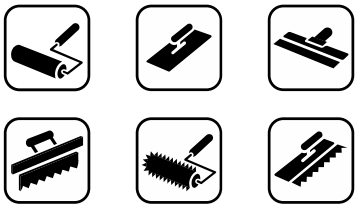
Application tools



Product	Application tool
Wecryl 171	Sheepskin roller
Wecryl 178	Sheepskin roller
Wecryl 123 K	Smoothing trowel, smoothing spatula or rubber floor squeegee (be sure to apply an adequate amount)
Wecryl 271	Coating trowel with triangular teeth (notch pattern 78) and metal spiked roller
Wecryl 279	Application without fleece (single layer): Notched rubber squeegee (12 mm), then spiked metal roller Application with WeFleece (wet-on-wet): 1st layer: sheepskin roller or notched rubber squeegee (5 mm), fleece reinforcement 2nd layer: sheepskin roller Application without fleece (layer by layer): 1st layer: notched rubber squeegee (6 mm), then spiked metal roller 2nd layer: notched rubber squeegee (6 mm), then spiked metal roller
Wecryl 419	Aluminium blade approx. 60 cm, smoothing trowel or coating trowel Optional: textured roller for finishing
Wecryl 409	Notched rubber strip, 3 mm, for the topping layer (first layer) Hard rubber floor squeegee / ordinary rubber squeegee for the sealer (second layer)
Wecryl R 230 thix	Sheepskin roller

Substrate preparation and primer selection

Correct substrate preparation and a proper primer layer are essential to ensure the functional durability of the WestWood system.
The roughness height of the surface must be determined using the sand patch method, and the resulting values for additional layer thickness must be complied with (see the DafStb guideline (2001 edition), "Part 3, Section 3.2.5 - Determination of roughness height" and Table 5.2).
The primer layer then applied creates an ideal barrier and enables optimal adhesion between the substrate and the WestWood system.
Please refer to the Application Guidelines – Substrate for correct substrate preparation and selection of the right primer.
Small air bubbles (pinholes) can be closed or prevented by applying the substrate stabiliser Wecryl 821 to the entire surface.

Primer layer

The primer is applied to the prepared substrate.

Wecryl 171 – low-viscosity primer for mineral substrates
Wecryl 178 – primer for absorbent, damp substrates
Apply the primer evenly with a sheepskin roller to produce a continuous film. Avoid creating puddles of primer.
Once the primer has cured, apply a second coat to cover any defects (bubbles, areas not fully covered).

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Levelling

Wecryl 123 K is used as a scratch coat and levelling coat.
Once the primer has hardened use Wecryl 885, Wecryl 810 or Wecryl 842 to level out any areas of damage, height differences or negative slopes. Please refer to the application guidelines for the substrate. Concrete repair in structurally significant areas (horizontal only) should be done with Wecryl 885.

Waterproofing layer

The primer and levelling layers must have hardened before the waterproofing layer can be applied.
The first stage involves waterproofing details (e.g. wall junctions, penetrations) and expansion joints. The waterproofing is then applied to the main surface area.

Waterproofing of details

Wecryl R 230 thix
Apply a generous and even layer of the mixed material to cover the entire area (at least 1.5 kg/m²), then immediately embed the WeFleece and use a sheepskin roller to remove any air bubbles. Immediately afterwards apply the remaining material (wet-on-wet, at least 1.0 kg/m²) up to the required total application rate (at least 2.5 kg/m²). In each case a sheepskin roller is used to spread the material over the surface.
Fleece overlaps must be at least 5 cm wide. Please refer to our drawings and computer animations for further information about waterproofing details (e.g. cutting the fleece sheet to size).

Expansion joint waterproofing

Please refer to the “Detail interfaces” brochure for waterproofing different types of joints.

Waterproofing of main area
Variant 1:
without embedded fleece

Wecryl 271 – principally effective surface protection layer (PESPL)
Apply a generous and even waterproofing layer of the mixed material to cover the entire area (at least 2.5 kg/m²), distribute with a coating trowel with notched blade (no. 78) and then go over the surface with a spiked steel roller.

Waterproofing of main area
Variant 2:
without embedded fleece

Wecryl 279 – waterproofing without fleece reinforcement
Apply a generous and even waterproofing layer of the mixed material over the entire surface (at least 2.8 kg/m²) with a 12-mm-notched rubber squeegee and then immediately go over the surface with a spiked metal roller.

Waterproofing of main area
Variant 3:
with embedded fleece

Wecryl 279 - waterproofing with fleece reinforcement
Use a sheepskin roller or 5-mm-notched rubber squeegee to apply a generous and even layer of the mixed material to cover the entire area (at least 1.3 kg/m²), then immediately embed the WeFleece. Immediately afterwards, apply the remaining material (wet-on-wet, at least 1.4 kg/m²) up to the required application rate (total application at least 2.7 kg/m²). A sheepskin roller or notched rubber squeegee (5 mm) can be used to distribute the first layer. A sheepskin roller must be used for application of the second layer. Fleece overlaps must be at least 5 cm wide.

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Wearing layer

Wecryl 419 – best performance textured surfacing
Spread the mixed material evenly using an aluminium blade, a smoothing trowel or a spreading trowel, and lay off to particle size thickness. The advantage of using the aluminium blade is that this can minimize the otherwise normal trowel marks to create a smooth, even appearance. When applying, make sure that no scoring marks are formed in the surface.

The material can be applied whilst standing using a spreading trowel. Optional rolling* with a textured roller, once the material has been applied evenly at a rate of 3.5 kg/m², gives the surface a smooth, uniform finish free from trowel marks and streaks.

*We recommend discussing the rolling process with the client/designer, as the minimum layer thickness of the system falls below four millimetres after rolling. On average, a layer thickness of four millimetres is achieved and wear resistance is not compromised as a result.

Wearing layer
Variant B

Wecryl 409 – high-resistance finish
Apply the first layer of Wecryl 409 (application rate approx. 850 g/m²) using a 3-mm-notched rubber strip and smooth out with a finish roller. Immediately afterwards, scatter WestWood Quartz Sand (particle size 0.7 - 1.2 mm; application rate approx. 4.0 kg/m²) in excess onto the layer of Wecryl 409 while it is still wet.
Once the layer has cured, vacuum off the excess sand and apply a second layer of Wecryl 409 as finish (approx. 800 - 1000 g/m²) using a hard rubber floor squeegee or ordinary rubber squeegee and smooth out with a finish roller.

Design options

WestWood systems offer excellent scope for creative designs. Wecryl 419 or Wecryl 409 can be used to create surfaces in one or more colours. The products also allow any pattern or markings to be incorporated.

Cleaning the tools

If work is interrupted or when it is completed, clean the tools thoroughly with WestWood Cleaning Agent within the pot life of the material (approx. 10 minutes). This can be done with a brush. The tools are ready to be used again as soon as the cleaning agent has evaporated fully.
Simply immersing the tools in the cleaning agent will not prevent the material from hardening.

Information on safety and risks

Please refer to the safety data sheets for the individual products.

General information

The preceding information, especially with regard to the application of the

products, is based on extensive development work and many years of experience and is provided as the best of our knowledge.
However, the wide variety of requirements and conditions on site mean it is necessary for the installer to test the product to verify its suitability for the intended purpose. Only the most recent version of this document is valid.
We reserve the right to make changes to reflect advances in technology or improvements to our products.

Appendices

- System drawing
  Revised: 01/04/2026

System drawing

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Substrate

1 Concrete, for example

Primer layer

2 Wecryl 171

Waterproofing layer

Waterproofing layer [PESPL] according to DAfStb guideline "Protection and repair of concrete components" and TR-Instandhaltung

Waterproofing of details

3 Wecryl R 230 /-thix

4 WeFleece

5 Wecryl R 230 /-/- thix

Waterproofing of main area (PESPL)

6 Wecryl 271| 279

Protective and wearing layer

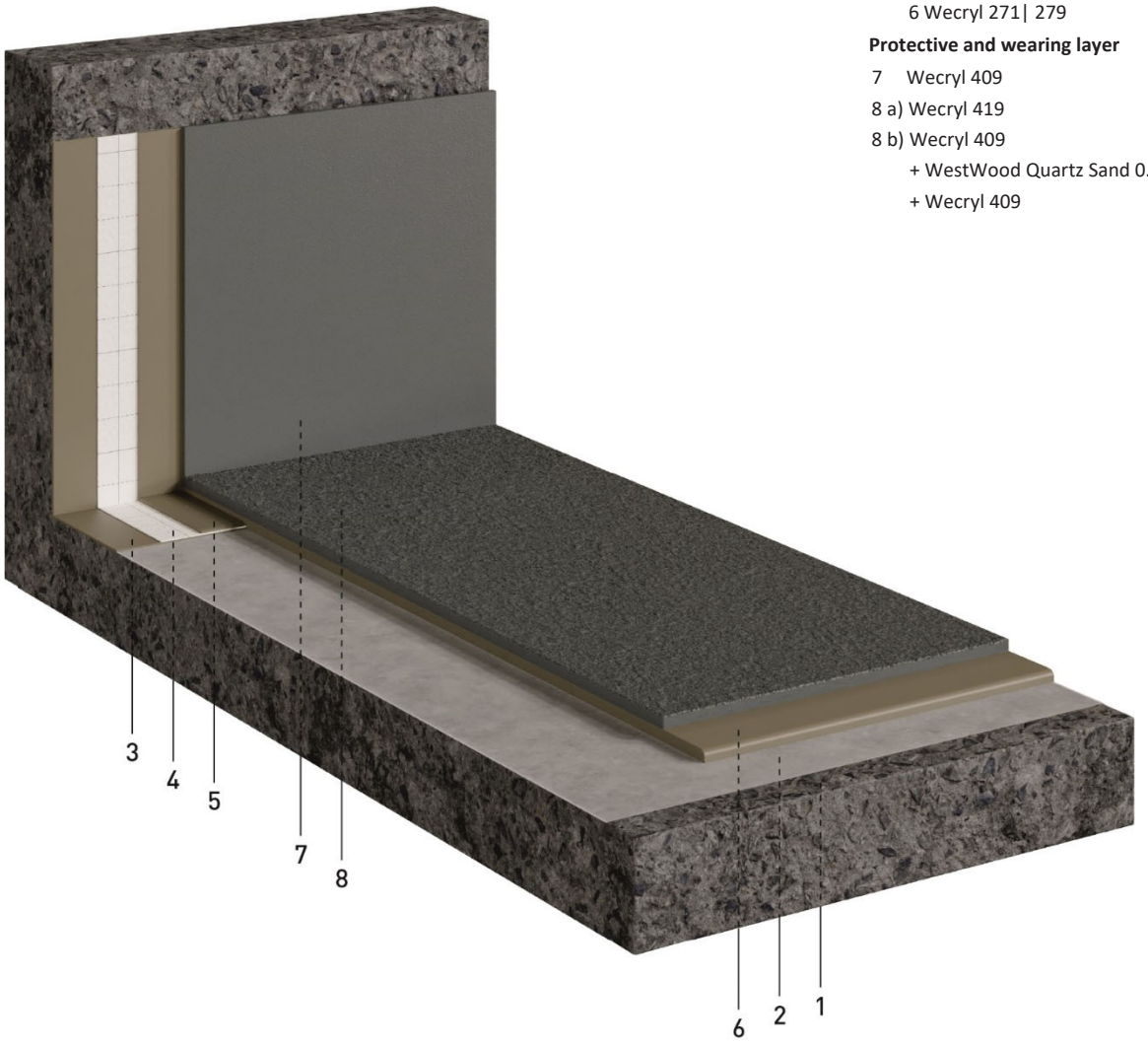
7 Wecryl 409

8 a) Wecryl 419

8 b) Wecryl 409

+ WestWood Quartz Sand 0.7 – 1.2 mm

+ Wecryl 409



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