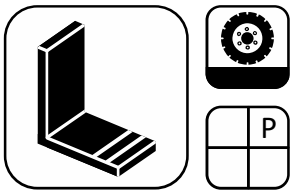
Installation instructions

Wecryl Surface Protection System OS 10 - 2.0



Short description

The Wecryl Surface Protection System OS 10 - 2.0 is a high-quality, highly flexible PMMA waterproofing resin tested in accordance with the German Committee on Reinforced Concrete (DAfStb) guideline “Protection and repair of concrete components”. This makes the waterproofing system (as a sealing layer with or without embedded fleece) suitable for areas of foot and vehicle traffic, with high crack-bridging properties under protective and covering layers. The surface can be created with a wide range of colours, patterns or markings. The fact that this system, with its high bonding strength on almost any substrate, is applied as a liquid kit makes it a cost-efficient, high-quality solution, especially for the renovation of multi-story parking structures.

Characteristics and benefits

- 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)
- Tested according to Class OS 10 of the DAfStb guideline “Protection and repair of concrete components” (October 2001).
- Waterproofing layer (PESPL) can be installed as waterproofing of a continuous area without an embedded fleece
- Fire protection class C_{fl}-s1
- Able to withstand high mechanical stress (for example from vehicles and persons)
- Fully bonded to the substrate, no seepage
- Usable on almost any substrate
- Adjustable slip resistance makes it the ideal solution for parking structures
- High area coverage due to efficient design
- 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, lane markings, etc.)
- Solvent-free

Areas of application

- Surface protection and waterproofing of concrete structural components with separating cracks and regular mechanical stress.
- Foot and vehicle traffic
- Parking structures, bridges, trough and tunnel floors
- For applications with demanding finish needs

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Application conditions

Temperatures

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

Product	**Temperature range (°C)**		
Primer layer	**Air**	**Substrate***	**Material**
Wecryl 171	+3 to +35	+3 to +40*	+3 to +30
Wecryl 123 K	0 to +35	0 to +30*	+3 to +30
Waterproofing layer			
Wecryl 279	-5 to +35	+3 to +40*	+3 to +30
Wecryl R 230 thix	-5 to +35	+3 to +50*	+3 to +30
Protective layer			
Wecryl 333	-5 to +35	-5 to +40*	+3 to +30
Wearing layer			
Wecryl 410	-5 to +35	-5 to +40*	+3 to +30
Wecryl 419	-5 to +35	+3 to +40	+3 to +30
Wecryl 413	-10 to +35	-5 to +40*	+3 to +30
Wecryl 402	-5 to +35	+3 to +40*	+3 to +30
Wecryl 488	-5 to +35	+3 to +40*	+3 to +30

* 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. Otherwise, curing problems can occur.

Humidity

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

Product	**Application rate [kg/m²]**		
Primer layer	smooth substrate	fine-sandy	rough
Wecryl 171	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 evening out the problem areas with Wecryl 123 K. A primer coat of Wecryl 171 is applied beforehand.

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Application rates and curing times (Continued)

Waterproofing layer	detail waterproofing		
Wecryl R 230 thix	at least 3.0 kg/m²		
Weplus fleece	approx. 1.05 m²/m²		

Waterproofing layer	detail waterproofing	waterproofing of continuous areas	
Wecryl 279 (with embedded fleece)	-	at least 2.70 kg/m²	
Weplus fleece	-	approx. 1.05 m²/m²	

Wecryl 279 (without embedded fleece)	-	at least 2.8 kg/m²	

Protective / Wearing layer	above waterproofing of continuous area	
Variant A:		
Wecryl 410	approx. 3.5 kg/m²	

Variant B		
Wecryl 419	approx. 3.5 kg/m²	

Variant C		
Wecryl 413	approx. 5.5 kg/m²	

Variant D:		
Wecryl 333	approx. 4.0 kg/m²	
	topping layer QS 0.7 - 1.2 mm approx. 7.0 kg/m²	
Wecryl 488	approx. 700 g/m²	

Variant E:		
Wecryl 333	approx. 4.0 kg/m²	
	hard grain topping layer 1 - 3 mm approx. 8.0 kg/m²	
Wecryl 402	approx. 800 g/m²	

*Waterproofing of details must incorporate embedded fleece.

Product	**Curing time** (approx. values at 20°C)			
	Pot life	**Rainproof**	**Overlayable**	**Fully cured**
Wecryl 171	15 min	30 min	45 min	2 hours
Wecryl 123 K	12 min	30 min	60 min	3 hours
Wecryl 279	15 min	45 min	1.5 hours	3 hours
Wecryl R 230 thix	15 min	30 min	1 hour	3 hours
Wecryl 333	15 min	30 min	1 hour	3 hours
Wecryl 410	10 min	30 min	45 min	2 hours
Wecryl 419	10 min	30 min	45 min	3 hours
Wecryl 413	12 min	30 min	45 min	2 hours
Wecryl 402	15 min	45 min	1 hour	3 hours
Wecryl 488	15 min	45 min	1 hour	3 hours

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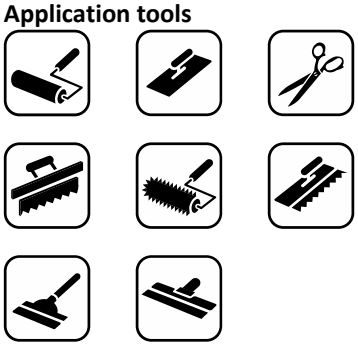
Application tools



Product	Application tool
Wecryl 171	sheepskin roller
Wecryl 123 K	smoothing trowel
Wecryl 279	Application with fleece (wet-on-wet): first layer: sheepskin roller or notched rubber squeegee (5 mm); fleece reinforcement second layer: sheepskin roller Application without fleece (layer by layer): first layer: notched rubber squeegee (6 mm), then spiked metal roller second layer: notched rubber squeegee (6 mm), then spiked metal roller
Weplus fleece	scissors
Wecryl R 230 thix	sheepskin roller
Wecryl 333	coating trowel with triangular teeth (notch pattern 92) or smoothing trowel
Wecryl 410	aluminium blade approx. 60 cm or smoothing trowel
Wecryl 419	aluminium blade approx. 60 cm or smoothing trowel
Wecryl 413	aluminium blade approx. 60 cm or smoothing trowel
Wecryl 402	hard rubber blade (for sealing sanded/topped areas) or finish roller (lint-free sheepskin roller)
Wecryl 488	hard rubber blade (for sealing sanded/topped areas) or finish roller (lint-free sheepskin roller)

Substrate preparation and primer selection

Correct substrate preparation and a proper primer coating are essential to ensure the functional durability of the WestWood® system.
Generally, the substrate must be sound, dry and free from loose or adhesion-reducing particles. That is why coats of paint, cement slurry, dirt and grease, for instance, must always be removed completely. As a rule this is done by shot blasting, scarifying, or grinding and then vacuuming off the debris. The roughness height of the surface must then be determined using the sand surface method, and the values for additional layer thickness must be maintained (see the DafStb guideline (2001 edition), “Part 3, Section 3.2.5 - Determination of roughness height” and Table 5.2).
The primer coating then applied creates an ideal barrier and enables optimal adhesion between the substrate and the WestWood® system.
Please refer to the Substrate application guideline for correct substrate preparation and primer selection.

Primer layer

The primer is applied to the prepared substrate.

Small air bubbles or pinholes can be sealed or prevented by applying Wecryl 821 substrate stabiliser over the entire area.

Wecryl 171 – low-viscosity primer for mineral substrates
Use the sheepskin roller to apply an even, film-forming coat of primer. Avoid creating puddles of primer.
Once the coating has cured, apply a second coat to cover any defects (bubbles, incompletely sealed areas).

Wecryl 123 K – scratch coat for greater roughness heights
Apply an even, film-forming layer of scratch coat with the smoothing trowel, using the particle size as a guide to the thickness of the layer. Avoid any build-up of material.
Once the coating has cured, apply a second coat to cover any defects (bubbles, incompletely sealed areas).

Levelling

Once the primer has hardened, use Wecryl 885, Wecryl 810, Wecryl 842, Wecryl 333 or Wecryl 843 to even out any damaged areas, height differences or negative gradients. Please refer to the substrate application guidelines for this. Concrete repairs are to be carried out with Wecryl 885 in the statically relevant area.

Waterproofing layer

The primer and levelling layers must be cured before the waterproofing layer can be applied.
The first step involves waterproofing details (e.g. upstands, penetrations) and expansion joints. The waterproofing is then applied to the continuous area.

Detail waterproofing

Wecryl R 230 thix
Apply a full coverage, even layer of the mixed material over the entire area (at least 1.5 kg/m²), then immediately embed the Weplus fleece and use a sheepskin roller to remove any air bubbles. Apply the remaining material immediately afterwards (wet-on-wet, at least 1.0 kg/m²) up to the total application rate necessary (at least 3.0 kg/m²). Use a sheepskin roller to spread the material over the surface in each case.
Fleece overlaps must be at least 5 cm wide.
Please refer to drawings and animated clips for further information about waterproofing details (e.g. cutting the fleece to size).

Expansion joint waterproofing

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

Waterproofing of continuous areas
Variant 1:
with embedded fleece

Wecryl 279 – waterproofing with embedded fleece
Use a sheepskin roller or 5 mm notched rubber squeegee to apply a full coverage, even layer of the mixed material to cover the entire area (at least 1.3 kg/m²), then immediately embed the Weplus fleece. Immediately afterward, 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 5 mm notched rubber squeegee 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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Waterproofing of continuous areas **Variant 2:** **without embedded fleece**	**Wecryl 279 – waterproofing without embedded fleece** Apply a full coverage, even first waterproofing layer of the mixed material to cover the entire area (at least 1.4 kg/m²), distribute with a 6 mm notched rubber squeegee and then immediately go over the surface with a spiked metal roller. Once the first layer has cured (approx. 90 minutes), apply the second layer of Wecryl 279 waterproofing (at least 1.4 kg/m²) and distribute it over the surface using a 6 mm notched rubber squeegee. Immediately afterwards – while this layer is still liquid – go over the second layer as well with the spiked metal roller.
Protective layer **Variant A**	**Wecryl 410 – textured surfacing** Spread the mixed material evenly using an aluminium blade or smoothing trowel and lay off to particle size thickness. The advantage of using the aluminium blade is that this can minimise the otherwise normal trowel marks to create a smooth, even appearance.
Protective layer **Variant B**	**Wecryl 419 – best performance textured surfacing** Spread the mixed material evenly using an aluminium blade or smoothing trowel and lay off to particle size thickness. The advantage of using the aluminium blade is that this can minimise the otherwise normal trowel marks to create a smooth, even appearance.
Protective layer **Variant C**	**Wecryl 413 – high performance textured surfacing.** Spread the mixed material evenly using an aluminium blade or smoothing trowel and lay off to particle size thickness. The advantage of using the aluminium blade is that this can minimise the otherwise normal trowel marks to create a smooth, even appearance.
Protective layer **Variant D**	**Wecryl 333 – self-levelling mortar with WestWood® Quartz sand topping (0.7 - 1.2 mm) and Wecryl 488** Use a notched or smoothing trowel to apply an even layer (approx. 4.0 kg/m²) to the hardened waterproofing for the continuous area. Top the newly applied self-levelling mortar with WestWood® quartz sand (0.7 - 1.2 mm) in excess (approx. 7.0 kg/m²). Once the self-levelling mortar is fully cured, use a brush to sweep off the excess quartz sand, making sure no loose grains remain on the surface. Finally a sheepskin roller is used to apply an even layer of Wecryl 488 Finish (approx. 700 g/m²).
Protective layer **Variant E**	**Wecryl 333 – self-levelling mortar with WestWood® hard grain topping (1 - 3 mm) and Wecryl 402** Use a notched or smoothing trowel to apply an even layer (approx. 4.0 kg/m²) to the hardened waterproofing for the continuous area. Top the newly applied self-levelling mortar with WestWood® hard grain (1 - 3 mm) in excess (approx. 8.0 kg/m²). Once the self-levelling mortar is fully cured, use a brush to sweep off the excess hard grain, making sure no loose grains remain on the surface. Finally a sheepskin roller is used to apply an even layer of Wecryl 402 Finish (approx. 800 g/m²).

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Design options

WestWood® systems offer excellent scope for creative designs. Wecryl 488 or Wecryl 410 can be used to create surfaces in one or more colours.
The products also allow any pattern or markings to be incorporated. A wide range of design options can be realised in conjunction with different toppings.

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 products used.

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 the document is valid.
We reserve the right to make changes to reflect advances in technology or improvements to our products.

Appendix

System drawings

Last revised: 1 February 2022

System drawing

Wecryl Surface Protection System OS 10 - 2.0

Application of the waterproofing layer (PESPL) without embedded fleece

Substrate

1 Concrete **primer layer**, for example

2 Wecryl 171

Waterproofing layer

(Waterproofing layer [PESPL] according to DAfStb guideline "Protection and repair of concrete components")

Detail waterproofing

3 Wecryl R 230 thix

4 Weplus fleece

5 Wecryl R 230 thix

Waterproofing of continuous areas

6 Wecryl 279

7 Wecryl 279

Protective and wearing layer

8 Wecryl 488

9 a) Wecryl 410

9 b) Wecryl 419

9 c) Wecryl 413

9 d) Wecryl 333

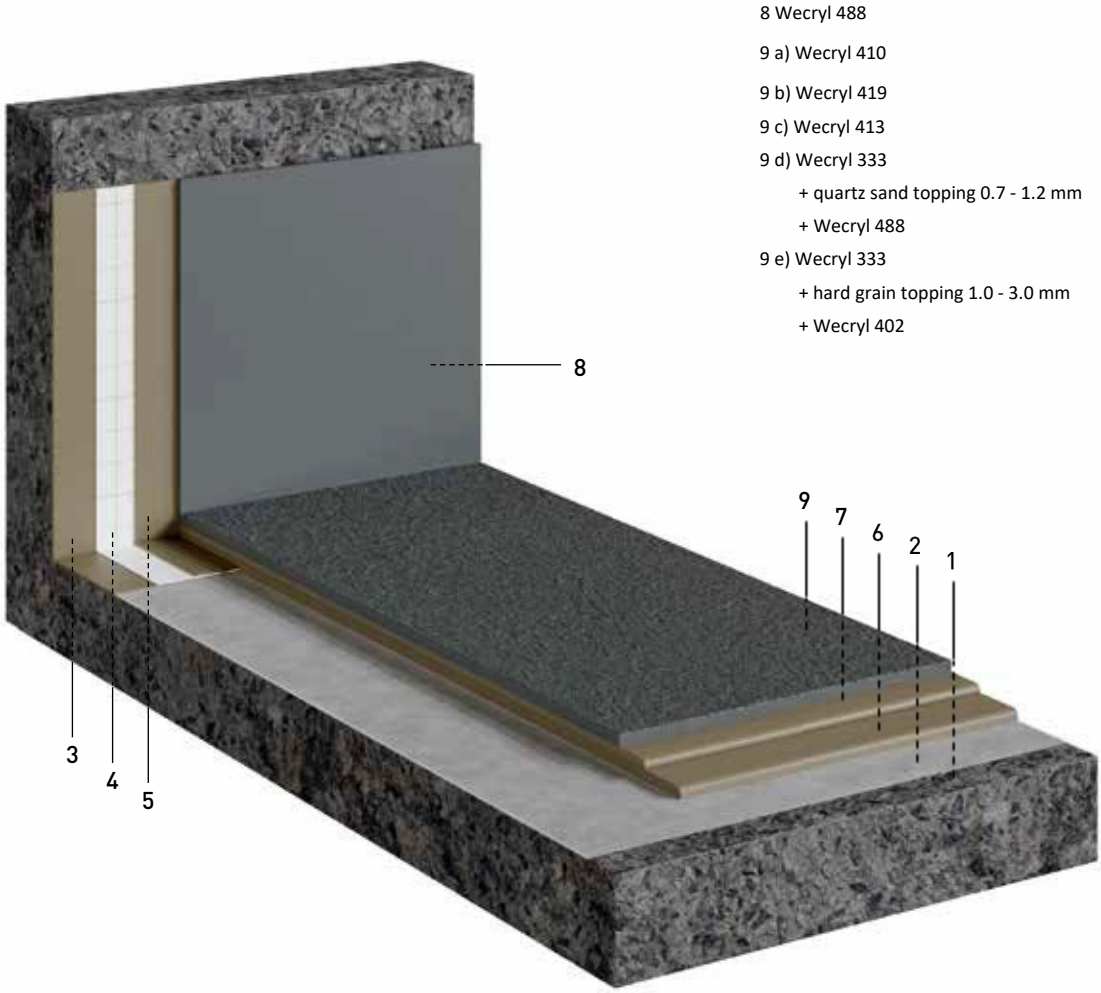
+ quartz sand topping 0.7 - 1.2 mm

+ Wecryl 488

9 e) Wecryl 333

+ hard grain topping 1.0 - 3.0 mm

+ Wecryl 402



System drawing

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Application of the waterproofing layer (PESPL) with embedded fleece

Substrate

1 Concrete **primer layer**, for example

2 Wecryl 171 **Waterproofing layer**

(Waterproofing layer [PESPL] according to DAfStb guideline "Protection and repair of concrete components")

Detail waterproofing

3 Wecryl R 230 thix

4 Weplus fleece

5 Wecryl R 230 /-thix

waterproofing of continuous areas

6 6 Wecryl 279

7 Weplus fleece

8 Wecryl 279

Protective and wearing layer

9 Wecryl 488

10 a) Wecryl 410

10 b) Wecryl 419

10 c) Wecryl 413

10 d) Wecryl 333

+ quartz sand topping 0.7 - 1.2 mm

+ Wecryl 488

10 e) Wecryl 333

+ hard grain topping 1.0 - 3.0 mm

+ Wecryl 402