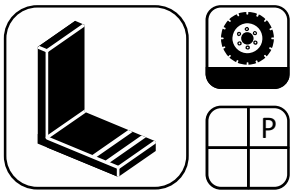
Installation guideline

Wecryl Surface Protection System OS 11b (OS F)



Brief description

The Wecryl Surface Protection System OS 11b (OS F) is a high-quality and flexible PMMA waterproofing system that is approved in accordance with the DAfStb guideline on the "Protection and repair of concrete components" and in accordance with ZTV-ING – part 3 – section 4 "Protection and repair of concrete components".

That makes this surfacing system (wear-resistant, pre-filled surface protection system and finish sealer) ideal as a surface protection layer with improved dynamic crack bridging properties for areas subject to pedestrian and vehicular traffic.

The surface design can feature a wide range of colours as well as 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 and high-quality solution, especially for the refurbishment of multi-storey car parks.

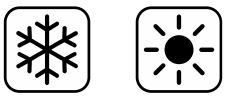
Properties and advantages

- Highly flexible and crack-bridging even at temperatures as low as and including -20 °C (crack bridging class B 3.2)
- Class OS 11b (OS F) approval according to the guideline for the protection and repair of concrete components issued by the German Committee on Reinforced Concrete (DAfStb), October 2001
- Class OS 11b approval according to the DAfStb guideline "Maintenance of concrete components", Yellow Paper, June 2016
- ZTV-ING - part 3 - section 4 "Protection and repair of concrete components" approval
- No embedded fleece or mesh required
- Very high resistance to chemicals, e.g. petrol (72 hours)
- 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

Applications

- Surface protection and waterproofing of concrete structural components with separating near-surface cracks and or separating cracks and regular mechanical stress
- Pedestrian and vehicle traffic
- Internal deck and floor slabs of multi-storey car parks
- Bridge caps

Application conditions



Temperatures

The system can generally be applied within an ambient temperature range between -5 °C and +35 °C. Some products are also suitable for application at sub-zero temperatures. Please refer to the table below for exact details.

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	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
WeVlies			
Waterproofing layer			
Wecryl 271	- -5 to + 35	+3 to +40*	+3 to +30
Wearing layer			
Wecryl 419	- -5 to + 35	+3 to +35*	+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. Reaction problems can occur at lower temperatures.

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

Consumption and reaction times

	Consumption [kg/m²]		
Primer layer	Substrate smooth	fine-sandy	coarse
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 making good problem areas with Wecryl 123 K.

Consumption and reaction times (continued)

principally effective surface protection layer	Waterproofing of continuous areas (PESPL)	Waterproofing of details
Wecryl 271	2.5 kg/m²	
Wecryl R 230		3.0 kg/m² with fleece

Protective / Wearing layer	Above waterproofing of continuous area	
Wecryl 4198	3.5 kg/m²	

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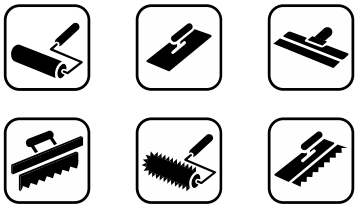
*Application of all details (e.g. wall upstands, joints) as fleece-reinforced waterproofing with WestWood Wecryl R 230 thix incl. WeVlies.

	Reaction time (approx. values at 20 °C)			
	Pot life	**Rainproof**	**Overlayable**	**Curing time**
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 hour	3 hours
Wecryl 419	12 min	30 min	45 min	2 hours
Wecryl R 230	15 min	30 min	1 hour	3 hours

Application tools



Product	**Application tool**
Wecryl 171	Sheepskin roller
Wecryl 178	Sheepskin roller
Wecryl 123 K	Smoothing trowel, rectangular float or rubber squeegee (take care to ensure adequate consumption rate)
Wecryl 271	Float with triangular teeth (notch pattern 78) and metal spiked roller
Wecryl 419	Aluminium blade approx. 60 cm, smoothing trowel or float
Wecryl R 230	Sheepskin roller

Substrate preparation and primer selection

Correct substrate preparation and a flawless primer coating are essential for ensuring the functional durability of the WestWood System.
The roughness height of the surface must be determined using the sand surface method, and the values for additional layer thickness must be complied with (see DafStb guideline (published 2001), "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 optimum adhesion between the substrate and the WestWood System.
Please refer to the Application Guidelines - Substrate for the correct substrate preparation and primer selection.

Avoid small air bubbles (pin holes) can be closed or prevented by an application of substrate stabiliser Wecryl 821 to the entire area.

The primer is applied to the prepared substrate.

Primer layer

Wecryl 171 – low viscosity primer for absorbent substrates
Wecryl 178 – Primer for absorbent, damp 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, areas not fully coated).

Levelling

Use Wecryl 123 K as scratch coat and levelling surfacer.
Once the primer has hardened use Wecryl 885, Wecryl 810 or Wecryl 842 to make good any areas of damage, height differences or negative slopes.

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Please refer to the Application Guidelines - Substrate. Use Wecryl 885 for concrete repairs in in structural applications (horizontal only).

Waterproofing layer

The primer and equalising layers must have hardened before the waterproofing layer can be applied.
The first stage involves waterproofing details (e.g. upstands, penetrations) and waterproofing of expansion joints. The waterproofing is then applied to the continuous 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 WeVlies and use a sheepskin roller to remove any air bubbles. Immediately afterwards apply the remaining material (wet in wet, at least 1.0 kg/m²) up to the required total consumption rate (at least 3.0 kg/m²).
In each case a sheepskin roller is used to spread the material over the surface.
Fleece overlaps must be installed with at least 5 cm overlap.

Please refer to our drawings and computer animations for further information about waterproofing details (e.g. cutting the fleece to size).

Waterproofing expansion joints

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

Waterproofing of continuous areas

Wecryl 271 – Principally effective surface protection layer
Apply a generous and even first waterproofing layer of the mixed material to cover the entire area (at least 2.5 kg/m²), distribute with a float with teeth (notch pattern No. 78) and then go over the surface with a metal spiked roller.

Wearing layer

Wecryl 419 – best performance textured flooring
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 and even appearance.
During application, care must be taken to ensure that no marks occur on the surface.

Design options

WestWood systems offer excellent scope for creative designs. Wecryl 419 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 above information, especially information about application of the products, is based on extensive development work as well as many years of experience and is provided to the best of our knowledge.
However, the wide variety of requirements and conditions on site mean that it is necessary for the product to be tested to ensure that it is suitable 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

Rev.: 01 February 2022

System drawing

Wecryl Surface Protection System OS 11b (OS F)

Substrate

1 e.g. Concrete **Primer layer**

2 Wecryl 171

Waterproofing layer

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

Waterproofing of details

3 Wecryl R 230 /-thix

4 WeVlies

5 Wecryl R 230 /-thix

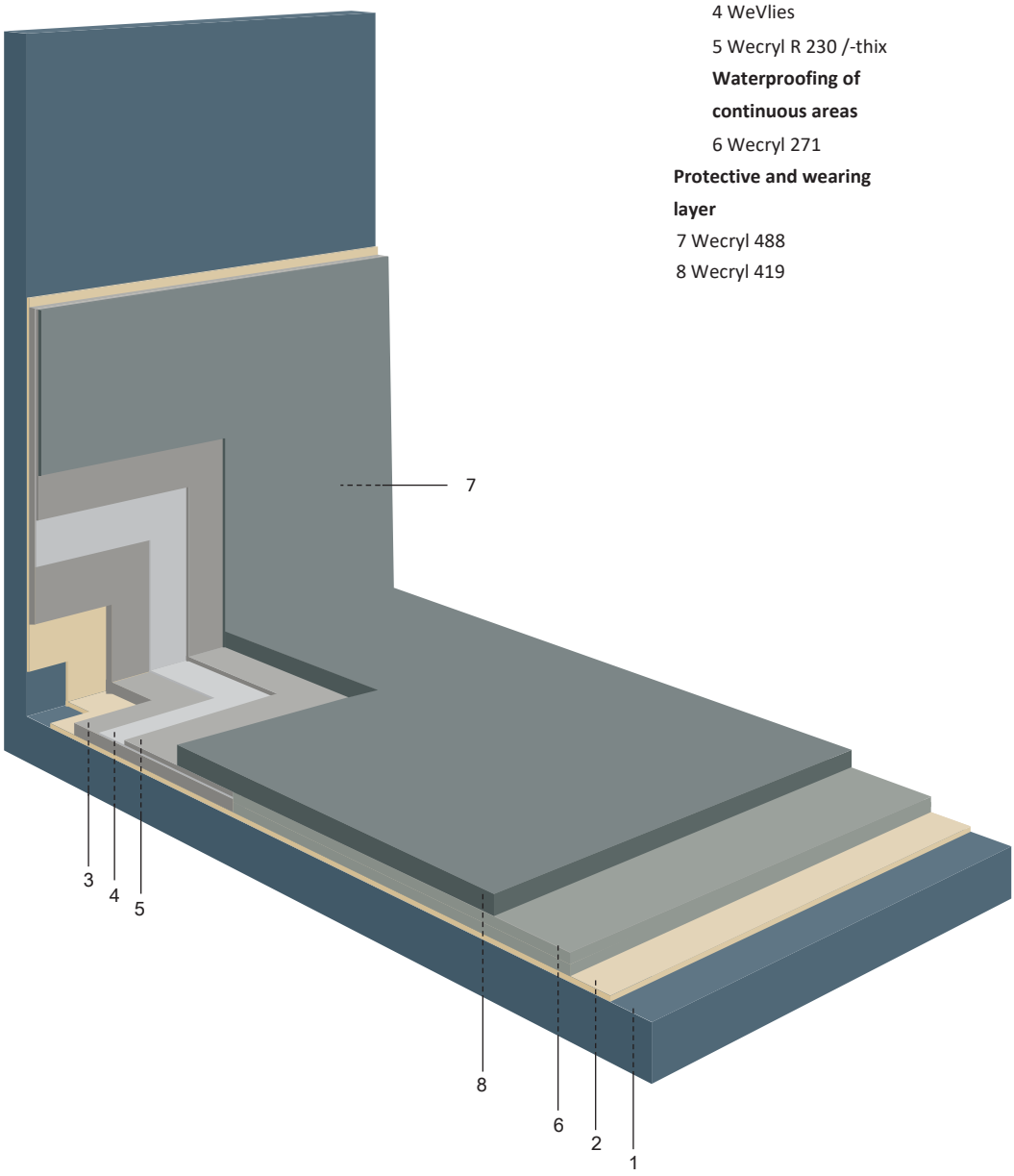
Waterproofing of continuous areas

6 Wecryl 271

Protective and wearing layer

7 Wecryl 488

8 Wecryl 419



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