

CONIPUR PGI

Two Layer, Water Impermeable Fall Protection for Indoor Playgrounds

Field(s) of application fall protection surface for children's playgrounds

System data

		product	consumption	application	remarks		
Primer	for asphalt	CONIPUR 70	0.15 kg/m ²	airspray or roll	In case of residual moisture > 4% (e.g. early age concrete), CONIPUR 3785 must be used as a primer.		
	for concrete	CONIPUR 4710 (CONIPUR 73)	0.20 kg/m ²	airspray or roll			
		broadcasted with oven dried sand					
		A surface preparation by light blasting or grinding surface removal (incl. the necessary post-treatment) is usually required. For further details, please refer to our corresponding product data sheet or consult our Technical Service					
Fall Protection Layer	50 mm	CONIPUR 4020	2.5 kg/m ²	trowel	For other thicknesses (≠ 50 mm) the amounts of binder and rubber can be adapted proportionally. For questions or more information, please contact our Technical Service.		
		recycled rubber granules, 2-6 mm	32.5 kg/m ²				
		Depending on availability also larger granules, shred, crumb and/or fibres can be used which might have an impact on the recommended binder consumption.					
		When using a mixture of rubber granules and fibres please do contact our Technical Service					
		For paver installation CONIPUR 6020 is used					
EPDM layer		thickness	10 mm minimum	12 mm recommended	15 mm ideal	In order to achieve sufficient stability and durability of the EPDM layer, we recommend a layer thickness of 12 mm , optimally 15 mm. CONIPUR 4020 is an aromatic binder, which will yellow when exposed to sun light. For sensitive colours of the granules (e.g. blue, beige, grey) we recommend to use CONIPUR 4080 (highly UV resistant) or CONIPUR 4090 (UV stable, aliphatic). For further information see "Playground EPDM – Binder Type".	
			consumption kg/m²				
		CONIPUR 4020	1.9	2.3	2.9		trowel
		CONIPUR EPDM granules, 1-3.5 mm	9.6	11.5	14.4		
		For paver installation CONIPUR 6020 is used					
		Alternative binders: highly UV stable binders CONIPUR 4080 (application by hand) resp. CONIPUR 6080 (paver installation)					
		UV stable binders CONIPUR 4090 (application by hand) resp. CONIPUR 6090 (paver installation)					

Pore Sealer	1 st layer	CONIPUR 4480	0.80 kg/m ²	straight edged trowel, paint roller	Depending on the porosity and the compacting of the surface the consumption of the pore sealer may vary.
	2 nd layer	CONIPUR 4480	0.30 kg/m ²		
Sealing lacquer		CONIPUR 3202 W AB CONIPUR 3202 W (colourless)	0.13 kg/m ²	paint roller	
CONIPUR 3202 W AB reduces the risk of germs being carried over the floor and provide no breeding ground for microorganisms.					

Total thickness of the system

approx. 50 + x mm – 50 mm fall protection layer (as required)
 x = the thickness of the EPDM layer: at least 10 mm, recommended 12 mm, ideally 15 mm

Depending on the required HIC value and the required stability of the systems, **other thicknesses** for the fall protection layer will have to be chosen. For high HIC values, the thickness of the base layer may exceed 100 mm.

As **HIC** values largely **depend** on the **installation**, neither the values nor test certificates are given here. As your partner, **CONICA offers** you **HIC measurements** of your samples in our laboratory. Please contact your responsible sales manager or our Technical Service.

Our **test reports** concerning reaction to fire, emissions and HIC measurements are based on a slightly **different** system built up. Used **components / quantities** as well as **thickness** (es) of the layer(s) **vary** from the above described system built up. In order to **use** the **test reports, components** and **quantities as mentioned** in the relevant test report(s) **need to be installed!**

Preparation

Substrates to be coated have to be firm, dry, load bearing and free of loose and brittle particles and substances, which impair adhesion such as oil, grease, rubber skid marks, paint or other contaminants.

In addition, the subbase must fulfil the relevant standards with special reference to flatness, gradients, thickness and load bearing capacity.

See also "Playground – subbase".

The bond strength of the substrate must be at least 1.0 N/mm².

The **moisture** level of **concrete** must not exceed **4 %** (check with CM equipment), which corresponds to maximum **75 %** relative humidity according to ASTM F 2170.

The **temperature** of the **substrate** must be at least **3 °C** above the current dew point temperature.

The **temperature** of the **products** before and during application is best between **15** and **25 °C**.

Consumption

For the different grain sizes and thicknesses of the **elastic layers** we recommend the following consumptions:

SBR Layer in mm	qty SBR in kg / m ²	quantity of binder in kg /m ²
		2 - 6 mm
30	19.5	1.50
40	26.0	2.00
50	32.5	2.50
60	39.0	3.00
70	45.5	3.50
80	52.0	3.90
90	58.5	4.40
100	65.0	4.90
110	71.5	5.40
120	78.0	5.90
130	84.5	6.40

The quantities specified are mere **recommendations** and do not constitute guidelines. In case of other rubber types (with fibres, different shape of the granules, different grain size, etc.) the amount of binder must be adjusted.

For the **EPDM layer** following quantities must be calculated:

Thickness of the EPDM Layer	Consumption kg/m ²		
	10 mm	12 mm	15 mm
CONIPUR 4020	1.9	2.3	2.9
CONIPUR EPDM granules, 1-3.5 mm	9.6	11.5	14.4
	Minimum	Recommended	Ideal

For the test reports we have used an EPDM layer of 10 mm covering the worst case. In order to achieve a **sufficient stability** and **durability** of the EPDM layer however, we recommend a **thickness of 12 mm** - ideal is the installation of a 15 mm EPDM layer.

Application

Apply **CONIPUR 70** onto the pre-treated water **permeable asphalt** sub-base using airless spraying equipment.

For **precast concrete** parts such as curbs and drainage systems, **CONIPUR 4710** or **CONIPUR 73** is applied preferably with a low-pressure airless device (for further information see product data sheet).

Allow the solvent to evaporate and the base course to become **sticky**, before applying the following layer. Depending on the prevailing humidity of the air, this is the case after about two hours.

CONIPUR 3785 is used for **fresh concrete surfaces** with a higher humidity level. **CONIPUR 3785** is applied by rolling or spraying. Puddling or thick layers are to be avoided.

For the first layer the **consumption** must be least **0.5 kg/m²** - do **not** sand.

To ensure the adhesion of the following polyurethane-based layer, the **2nd layer** of **CONIPUR 3785** (consumption min. 0.35 kg/m²) must be **sprinkled** with **oven-dried quartz sand** (grain size 0.3-0.8 mm). Unbound quartz sand must be removed after curing (see product data sheet for further information).

Apply only primer in areas where the following layer will be installed within the next **12 hours**. If the application of the base layer does **not** take place **within the 12 hours** period, a new coat of primer has to be applied in order to avoid poor adhesion.

Mix the rubber granules, shred, crumb and/or fibres with **CONIPUR 4020** using a compulsory mixer. Install the fall protection mat at a **consistent density** to the specified thickness using a **hand trowel** and a screed.

Let the layer cure (harden) so that foot traffic or equipment do not leave any indentations. The curing process depends on temperature and humidity. If there is sufficient humidity in the air, curing is normally finished overnight.

The maximum **re-coating** interval of the fall protection layer is **48 hours**. In case the EPDM layer is installed after this interval, the surface has to be primed with **CONIPUR 72**.

If the fall protection layer is **soiled** (dust, sand), the surface must be cleaned and **CONIPUR 72** must be applied after it has dried completely.

Mix the **CONIPUR EPDM** granules with a share of **20 %** by weight of **CONIPUR 4020** using a compulsory mixer. Install the top layer using a hand trowel and a screed.

For **sensitive colours** of the granules we recommend to use **CONIPUR 4080** (highly UV-stable) or **CONIPUR 4090** (UV stable, aliphatic). For more information, please refer to "Playground EPDM – Binder type".

The **smoothing** of the surface **during application** of the binder-granule mix can be facilitated by using **CONICA SMOOTHING AGENT**, which is used to moisten the trowel. It is a very pure product with low odour. As the trowel only needs to be moistened, the consumption can be very low.

Allow the EPDM layer to cure (harden). The curing process depends on temperature and humidity. Do not allow **foot traffic** until the surface is sufficiently cured. If there is enough humidity in the air, curing is normally finished overnight.

The maximum **re-coating** interval of the EPDM layer is **48 hours**. In case the pore sealer **CONIPUR 4480** is applied after this interval, the surface has to be primed with **CONIPUR 72**.

If the surface is **soiled** (dust, sand), the surface must be cleaned and **CONIPUR 72** must be applied after it has dried completely.

Seal the **pores** of the EPDM layer with **CONIPUR 4480** using a straight edged trowel or squeegee. Afterwards roll the whole surface with a paint roller to obtain a homogeneous image.

This step has to be **repeated** after overnight cure to ensure a 100% closing of the pores and obtain visually perfect surface.

Apply **top coat CONIPUR 3202 W AB** or **CONIPUR 3202 W** using "Microtex" rollers; roll out well to eliminate roller marks.

Avoid overlapping as far as possible. Accelerated curing by "ventilation" because of open windows/doors/gates needs to be avoided

Remarks

For further information, please refer to the technical data sheets of the products or contact our Technical Service.

For application, conditions please see our "**General Application Guidelines for Sports Systems Indoor and Outdoor**".