melos

Recommended installation

FALL PROTECTON SURFACES

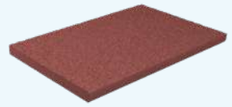
Synthetic
Fall Protection Systems

READY TO BUILD

Synthetic fall protection surfaces according to DIN EN 1176 and 1177 from Melos are composed of high-quality components Made in Germany and guarantee excellent damping properties with a very long durability.

POSSIBLE TOP LAYERS.

EPDM Mulch
2.0–30 mm



EPDM Granules
1.0–3.5 mm

POSSIBLE BASE LAYER.

Technical Granules
1,0–8,0 mm

Melos® Cushion+

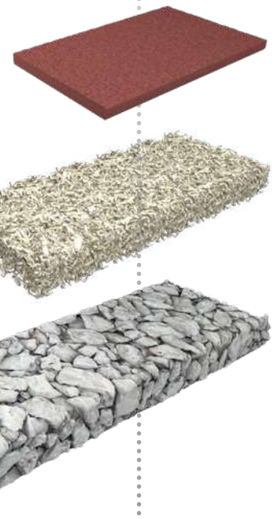
Infinergy®

POSSIBLE SUB STRUCTURES.

Gravel base layer

Concrete base layer

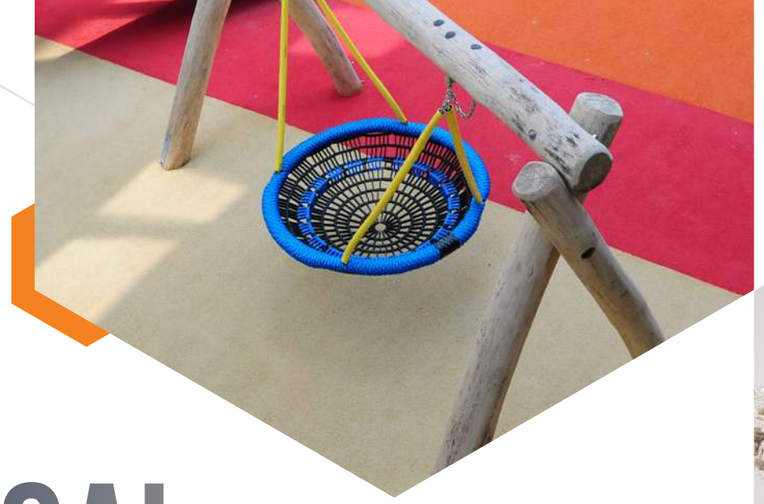
Asphalt base layer



TOP LAYER

BASE LAYER

SUB STRUCTURE



CRITICAL FALL HEIGHTS

For the certification according to DIN EN 1177, Melos GmbH only supplies the components (granules/PU) and can therefore not provide any binding information on the drop height, structure and composition of individual systems. The following table is based on empirical values and is not to be understood as binding:

Material	Critial fall height	1.5 m	2.0 m	2.5 m	3.0 m
EPDM Granules 1.0-3.5 mm	Top layer	10 (12)* mm	10 (12)* mm	10 (12)* mm	10 (12)* mm
Technical Granules 1.0-8.0 mm	Base layer	40 mm	70 mm	80 mm	110 mm
Melos® Cushion+ 2.0-30.0 mm		30 mm	50 mm	60 mm	80 mm
Infinergy® 6.0 mm		30 mm	50 mm	60 mm	80 mm

Material	Critial fall height	1.5 m	2.0 m	2.5 m	3.0 m
EPDM Mulch 2.0-30.0 mm	Top layer	20 mm	20 mm	20 mm	20 mm
Technical Granules 1.0-8.0 mm	Base layer	30 mm	60 mm	70 mm	100 mm
Melos® Cushion+ 2.0-30.0 mm		30 mm	40 mm	60 mm	70 mm
Infinergy® 6.0 mm		30 mm	40 mm	50 mm	70 mm

*Melos GmbH recommends a layer thickness of 12 mm in the top layer for Melos® Cushion+ and Infinergy®.

Consumption depends on various factors, such as substructure, grain size and processing method.

The base layer/damping layer usually consists of PUR-bound technical granules with a grading curve of 1.0-8.0 mm, but materials made of 100 % virgin material can also be used. These include fall protection systems made of PUR-bonded Melos® Cushion+ (virgin EPDM, fiber-cut 2.0-30.0 mm) and PUR-bonded Infinergy® Beads.

For the wear layer, EPDM 60 Shore A granules with a grain size of 1.0-3.5 mm or EPDM Mulch 2.0-30.0 mm, which is bound with either an aromatic (non-UV-stable) or aliphatic (lightfast) PUR binder, depending on the color of the granules.

System structure	Material	Consumption kg/m²	Layer Thickness
Wear layer	EPDM Granulaes 1.0-3.5 mm	10 (12)	10 mm
	Binder (20 %)	2	
	alternatively		
	EPDM Mulch 2.0-0.0 mm	10	20-25 mm
	Binder (20 %)	2	
Base layer/ Damping layer	Technical Granules 1.0-8.0 mm	7.0-7.5	10 mm
	Binder (10 %)	0.7	
	alternatively		
	Melos® Cushion+ 2.0-30.0 mm	5.0	10 mm
	Binder (10 %)	0.5	
	alternatively		
	Infinergy® 6.0 mm	1.45	10 mm
	Binder (18 %)	0.26	

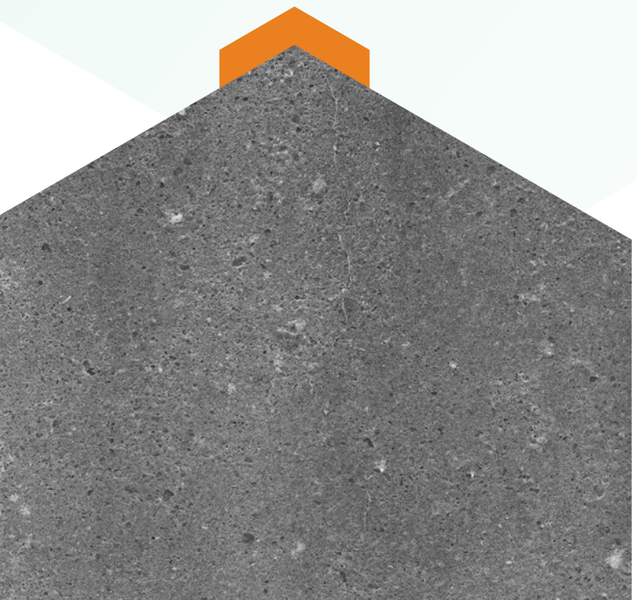
Requirements for the

SUBSTRUCTURE

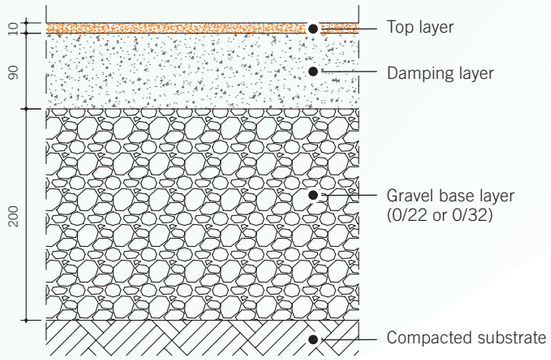
For synthetic fall protection surfaces in a minimum thickness of 30 mm, a sufficiently compacted, stable and shear-resistant gravel base layer of frost-resistant material 0/32 or 0/22 mm in a minimum layer thickness of 200 mm is recommended. The material must fully comply with DIN 18035-6 in terms of grading curve and thus in terms of water permeability, compaction and stability.

Installation on an asphalt or concrete base layer is also possible. The basic requirement before installation is that the surface must be cleaned of dust, oil and loose spots. The asphalt/concrete base layer must be free of cracks and cavities. Required adhesive tensile strength must be on average > 1.5 N/mm².
For asphalt substructures, a water-permeable construction method according to DIN 18035-6 is recommended. To ensure sufficient adhesion of the synthetic fall protection surfacing, the application of PC11-010 Adhesion Primer is recommended. The application quantity is approx. 0.15 kg/m². The primer can be applied with an airless sprayer (e.g. Graco) or with a paint roller.

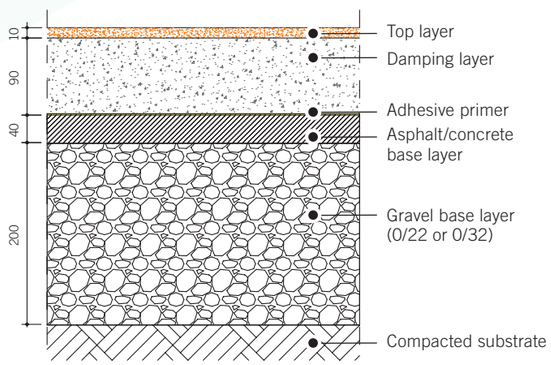
The evenness of the substructure should not deviate by more than max. 10 mm under the four-meter guideline level. Edging of the synthetic fall protection surfacing is recommended. This can be done using concrete edge stones, slabs or soft edge stones.



Gravel base layer

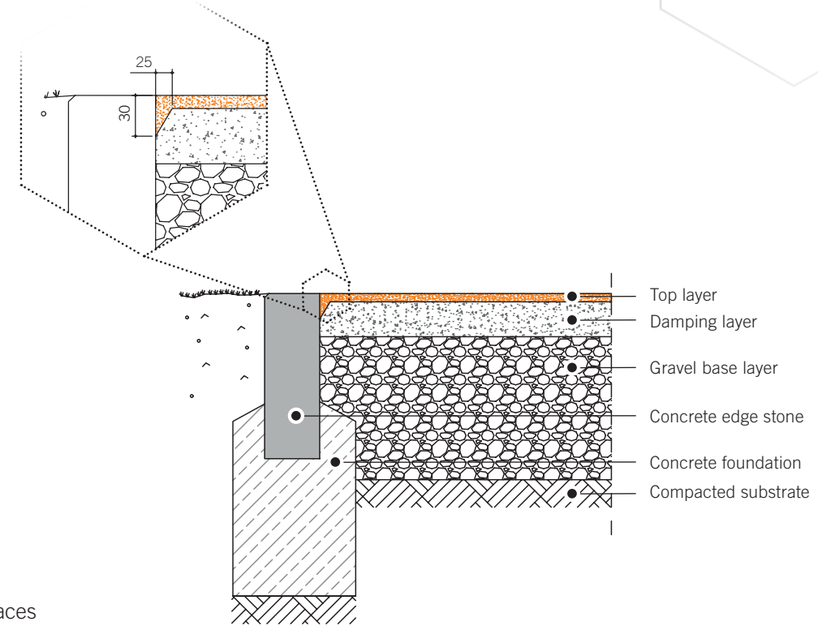


Asphalt/concrete base layer

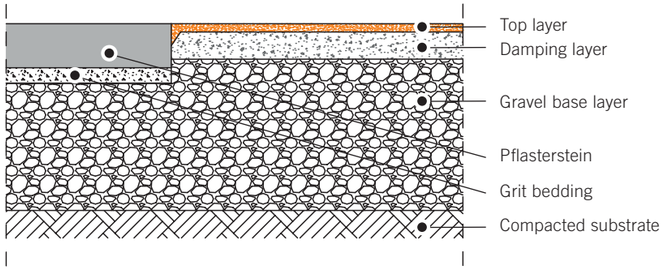


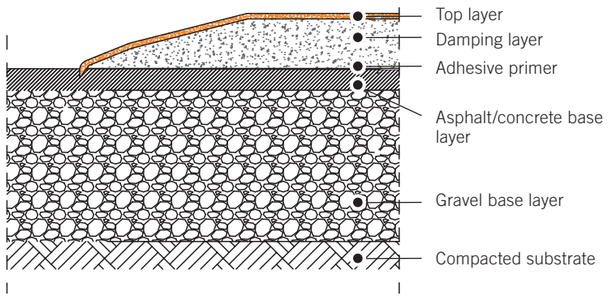
Connection Details – Edgings

Melos GmbH recommends to surround synthetic fall protection surfaces (EPDM surfaces). For this purpose, a claw edge (see detail) should be formed in the cushioning layer. This gives the PUR-bonded EPDM top layer better adhesion to the edging stone and minimizes detachment. This is particularly recommended for systems with Cushion+ or Infinergy in the damping layer.
Before application, PC11-010 Adhesion Primer should be applied to the inside of the edge stone.

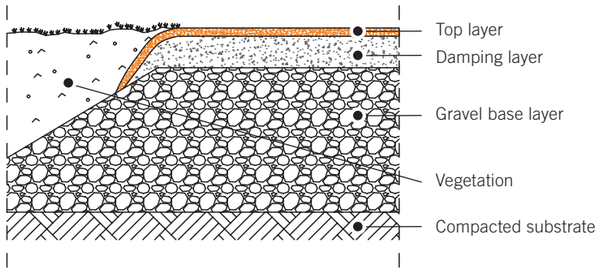


When applied on an asphalt/concrete base course, a claw edge should be cut into the surface layer all around to prevent detachment of the fall protection system. Pre-treatment with PC 11-010 Adhesion Primer is recommended.





If no edging is available, the synthetic fall protection surface can border on the vegetation base layer in the edge area. The entire fall protection surface must be led down to the gravel base layer.



Polyurethane

Name	Description	Drying time [h]	Viscosity [mPas] at 23 °C	Density [g/cm³]	Packing	Art. No.
PC 11-010	One-component PUR primer for asphalt, concrete and retopping.	4-6	220 ±70	1.00	Bucket 25 kg Barrel 200 kg	492052 492023
PC 31-020	The one-component, solvent-free, medium-viscosity and MDI-based PUR binder binds the granules in the production of elastic granular surfaces and in the playground sector.	12-14	2600 ±500	1.10	Bucket 20 kg Barrel 210 kg	492101 492076
PC 31-030	The one-component, lightfast, solvent-free, medium-viscosity, aliphatic PUR binder binds the granules in the production of elastic granular surfaces and in the playground area.	12-14	3300 ±700	1.06	Bucket 20 kg Barrel 210 kg	492230 492094

Granules

Name	Description	Size [mm]	Bulk density [g/l] ±10%	Packing	Art. No.
Technical Granules 1.0–8.0 mm	Recycled material	1.0-8.0	450		468060
Melos® Cushion+	Consists of 100 % virgin EPDM and is a high quality PAH free component for the base layer of fall protection surfaces.	2.0-30.0	320		
Infinergy®	Expanded thermoplastic polyurethane (E-TPU). The closed-cell particulate foam combines low weight with high long-term load-bearing capacity.	5.5-6.0	110	120 kg 10 kg	493000 493005

Complementary products

Name	Description	Drying time [h]	Viscosity [mPas] at 23 °C	Density [g/cm³]	Packing	Art. No.
PC 11-030	Accelerator for the curing process.				Bucket 1 kg	492116
PC 11-050	VOC-free cleaner			1.09	Bucket 25 kg Barrel 215 kg	492026 492027

Are you interested in our products?
Do you have any questions?

If so, get in touch with us today.
We look forward to hearing from you.

Tel.: +49 (0)54 22 94 47-0
Fax: +49 (0)54 22 59 81
Email: info@melos-gmbh.com

Follow us on social media:

Melos GmbH
Bismarckstrasse 4-10
49324 Melle, Germany

www.melos-gmbh.com

02/2022