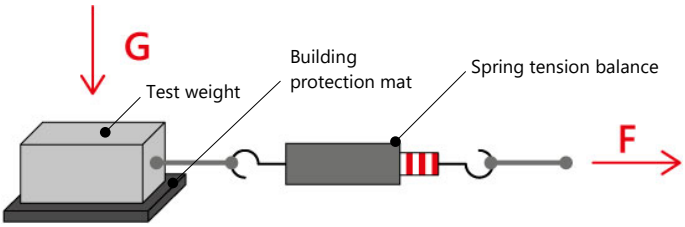
Protocol Static Friction (Coefficient of Friction)

MANUAL

The structural integrity of a penetration-free mounting system is achieved by the dead weight, module weight and additional ballast. Prerequisites for a proper assembly include suitable roof construction, as well as sufficient load-bearing reserves of the building. A significance influence on the structural integrity of this type of construction is the interaction between roof covering and the building protection mat of the assembly system, which is defined by the coefficient of friction. The coefficient of friction is incorporated in the static calculation 1:1. It is therefore necessary to determine the friction coefficients on site and verify them!

Coefficient of friction determination
The coefficient of friction, also called friction values (formula symbol μ), is a dimensionless measure of the frictional force in relation to the pressure force between two objects.



Coefficient of friction μ = F : G
F = [kg]
G = [kg]

Example

The test weight weighs 1.0 kg. The spring balance shows 0.6 kg before the weight moves.

F : G = μ
0.6 kg : 1.0 kg = 0.6
μ = 0.6

What you need:
K2 Coefficient of friction (Article number 2002620):
- Test weight with building protection mat on the underside (firmly attached)
- Spring tension balance

Testing:
- Prepare the roof surface for subsequent assembly and if necessary clean with water
- Place the test weight on the roof surface and leave for 10 seconds
- Pull the spring tension balance at a right angle to the roof pitch
- Read the weight as soon as the test weight starts to slide
- Measure on dry and wet roof surfaces at several locations
- Measure the high and low points, the corner, edge and center area of the surface.

Note:
Observe the zero position of the unloaded scale for each measurement. Use the provided building protection mat during the test. The building protection mat and the block must weigh 1 kg together. The weight can be adjusted by adding additional weights or by removing lead balls (yellow lock).

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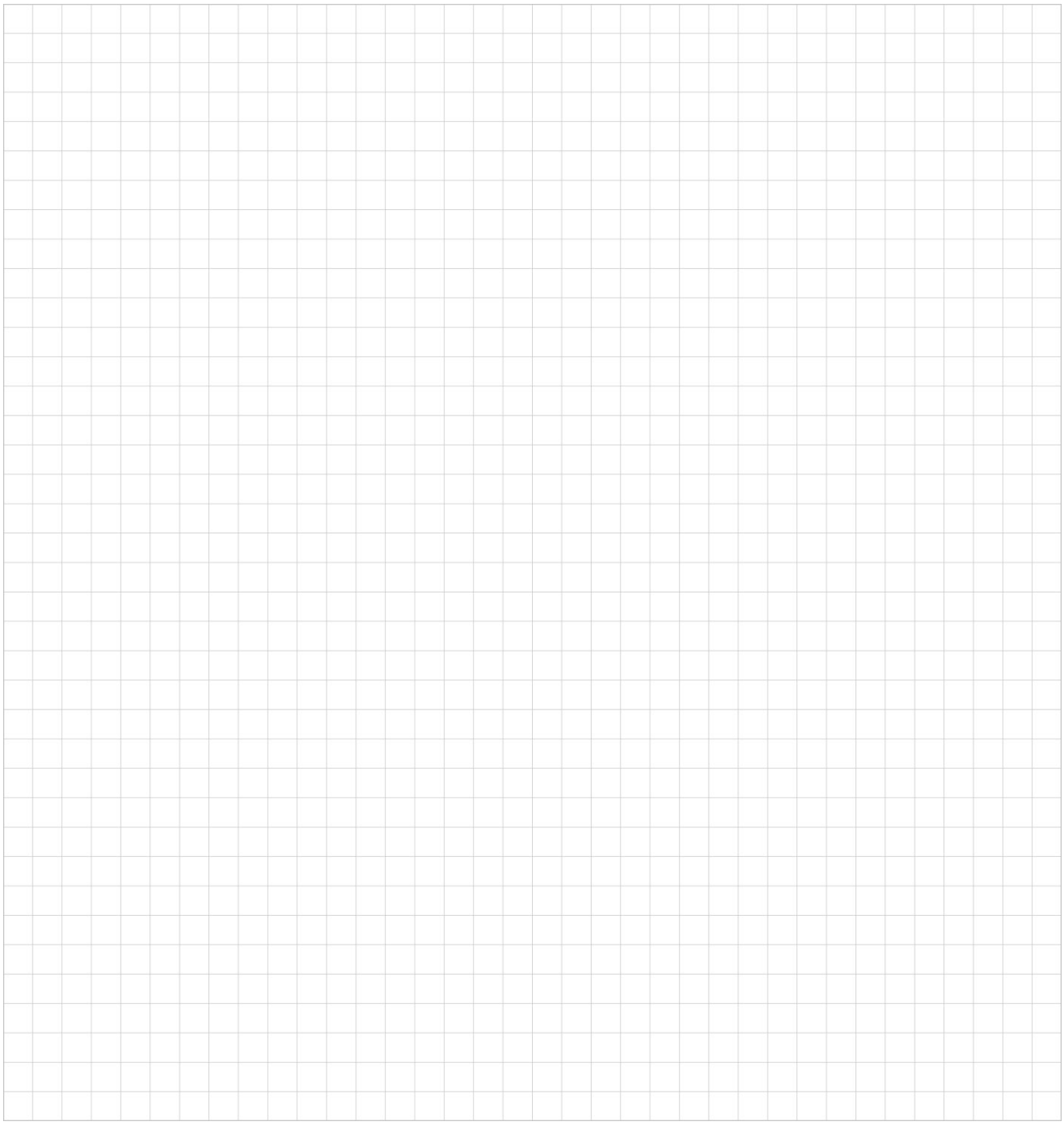
ROOF SKETCH

Please draw in at least five measuring points!



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TEST PROTOCOL

Starting basis:			
Manufacturer roofing:	Roofing type:	Age of roofing:	Weight (G) test piece [kg]:
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Measured values*:	Tensile force (F) in kg
Measuring point 1 (dry)	
Measuring point 1 (wet)	
Measuring point 2 (dry)	
Measuring point 2 (wet)	
Measuring point 3 (dry)	
Measuring point 3 (wet)	
Measuring point 4 (dry)	
Measuring point 4 (wet)	
Measuring point 5 (dry)	
Measuring point 5 (wet)	

* Sketch the measuring points on your roof layout sketch! For larger roof surfaces, we recommend increasing the number of measuring points!
Then use the smallest value of all measuring points and divide it by the weight of the test specimen:

Result µ:

We recommend a test piece with a weight between 1 kg and 10 kg. If necessary, your K2 Systems Sales Manager can temporarily provide you with an adequate test weight. Please discuss availability with your K2 Sales Manager.

Customer:	Commission:
Date:	**Inspector (name)**

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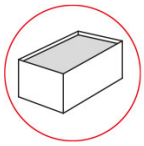
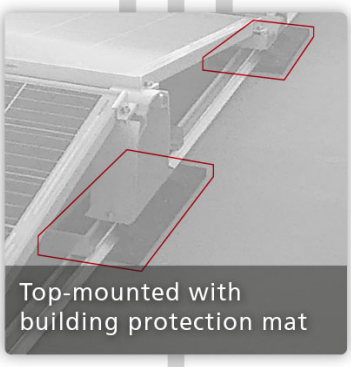
TRANSFER OF MEASURED VALUES IN BASE ON

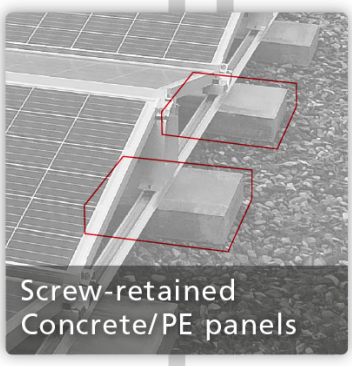
Please note the following recommendation for transferring the measured values into our planning software Base On (k2-systems.com/baseon).

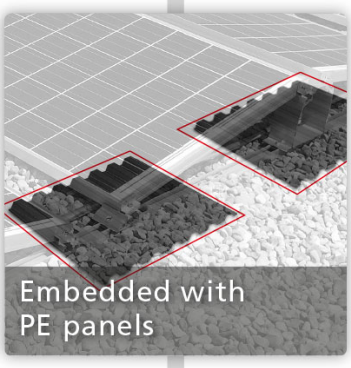


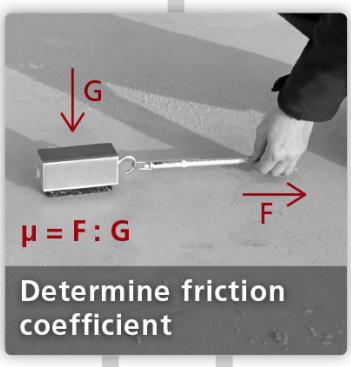
Membrane / Bitumen | Concrete | Gravel / Green Roof

Type of construction







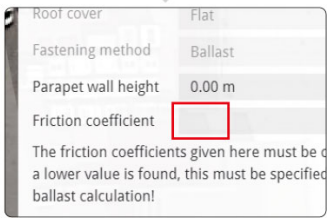


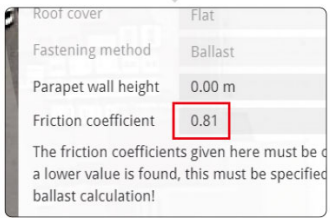
μ < 0.81
Enter the determined value

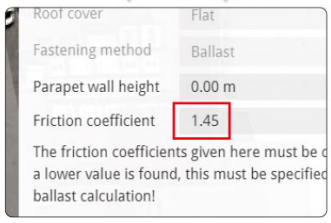
μ ≥ 0.81 → enter 0.81

If possible determine and enter μ = max. 2.0

Entries Base On







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