

**KNAUFINSULATION**  
URBANSCAPE

# *Zelene strehe*

*Odpornost mest na padavine*

*Build on us.*



# Zakaj zelene strehe? - Izziv

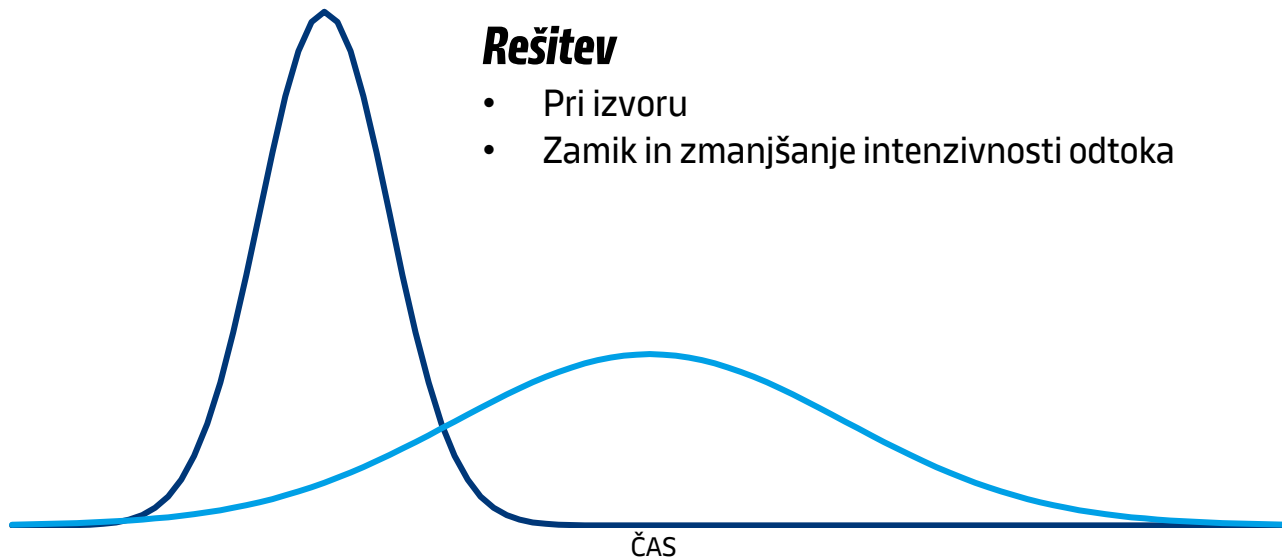
## Izziv

- Rast urbanih območij
- Večanje površin, ki ne zadržujejo vode
- Ekstremni padavinski dogodki
- Povečan pritisk na sisteme odvodnjavanja → Povečano tveganje za poplave

## Rešitev

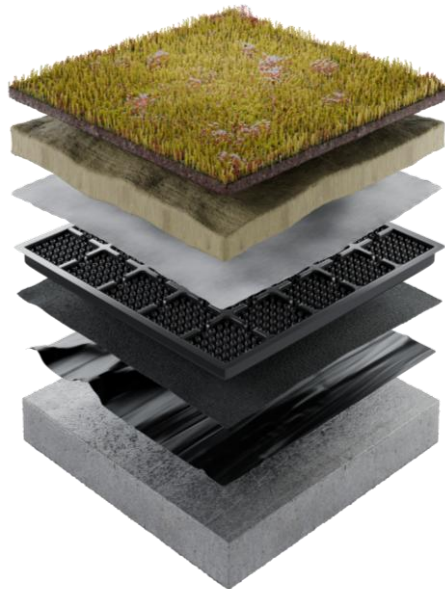
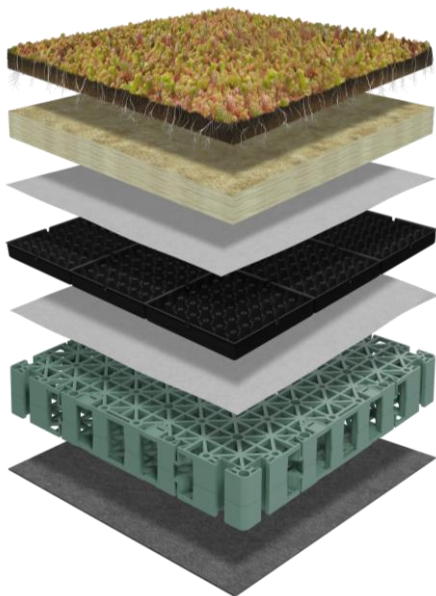
- Pri izvoru
- Zamik in zmanjšanje intenzivnosti odtoka

ODTOK



# Zakaj zelene strehe? - Rešitve

- Posnemanje narave
- Sistemi zelenih streh (in modrih), ki zadržujejo večje količine vode

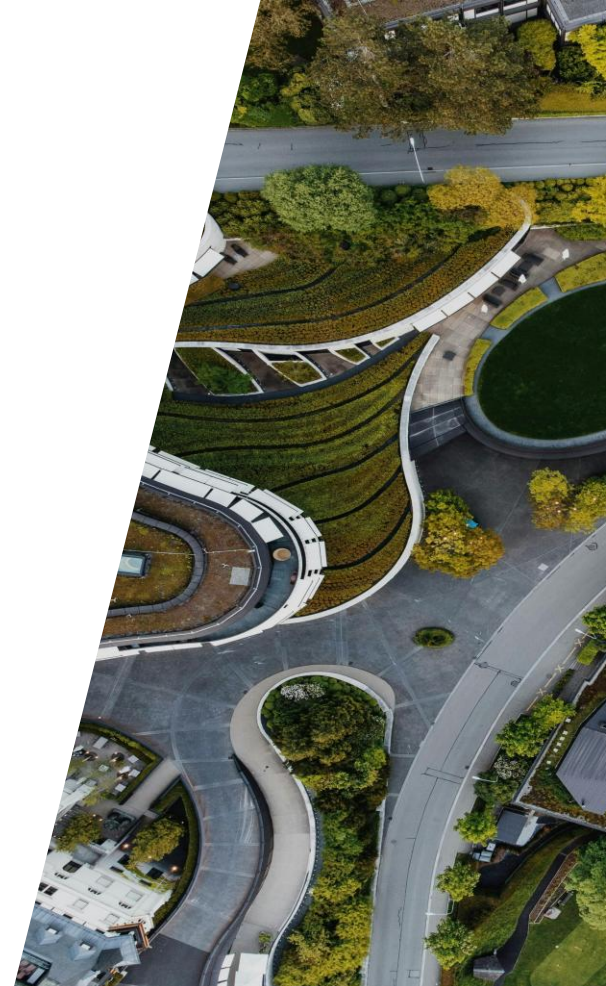


Odlično  
zadrževanje vode



Zmanjšana potreba  
po zalivanju

Classified as Internal and General Business



# Zakaj zelene strehe? - Rezultati

## Roof construction

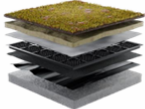
Composition: Concrete (2000); d = 18 cm  
 Rock mineral wool (L60); d = 20 cm  
 Bitumen - felt/sheet; d = 0.8 cm  
 U = 0.175 W/m<sup>2</sup>K  
 roof colour: very dark; αs = 0.85

Area: 1.0 m<sup>2</sup>

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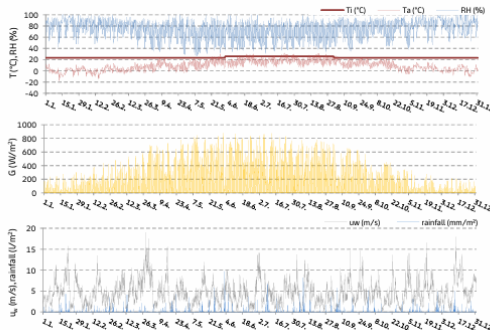
Composition: Sedum-mix blanket  
 No additional soil layer  
 GreenRoll substrate 4 cm  
 Drainage with buffer Q25  
 Thickness: 8.5 cm (without Sedum-mix plants height)  
 Max. water content: 50 l/m<sup>3</sup>  
 Irrigation: NO



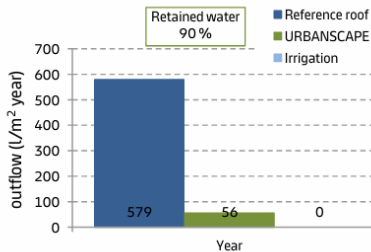
## Meteo data

Location: Berlin, Germany

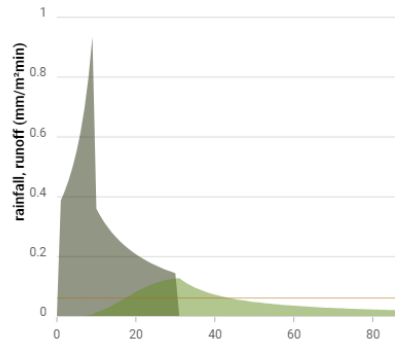
	Ta (°C)	RH (%)	H (kWh/m <sup>2</sup> d)	rainfall (L/m <sup>2</sup> m)
jan	-0.2	80	0.6	42
feb	0.5	79	1.2	35
mar	4.1	74	2.3	35
apr	8.5	69	3.6	39
may	14.1	65	4.8	52
jun	17.3	66	5.2	75
jul	18.9	65	5.0	57
aug	18.4	67	4.3	61
sep	14.6	72	2.9	48
oct	9.9	78	1.6	40
nov	4.7	81	0.7	47
dec	1.5	82	0.4	53
Year	9.4	73	1001 kWh/m <sup>2</sup> y	579 L/m <sup>2</sup> y



## Results - water



	Irrigation (L/m <sup>2</sup> )	outflow (L/m <sup>2</sup> )	retained water (L/m <sup>2</sup> ) (%)
jan	0	23	18 43
feb	0	7	25 76
mar	0	11	24 69
apr	0	0	39 99
may	0	0	52 99
jun	0	0	75 100
jul	0	0	57 100
aug	0	0	60 99
sep	0	0	47 99
oct	0	0	39 98
nov	0	0	46 99
dec	0	15	36 71
Year	0	56	518 90



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***Thank You***