

Utforming av takutstikk og betydning for regnpåkjenning



En del av EU- prosjektet *Tall Facades*

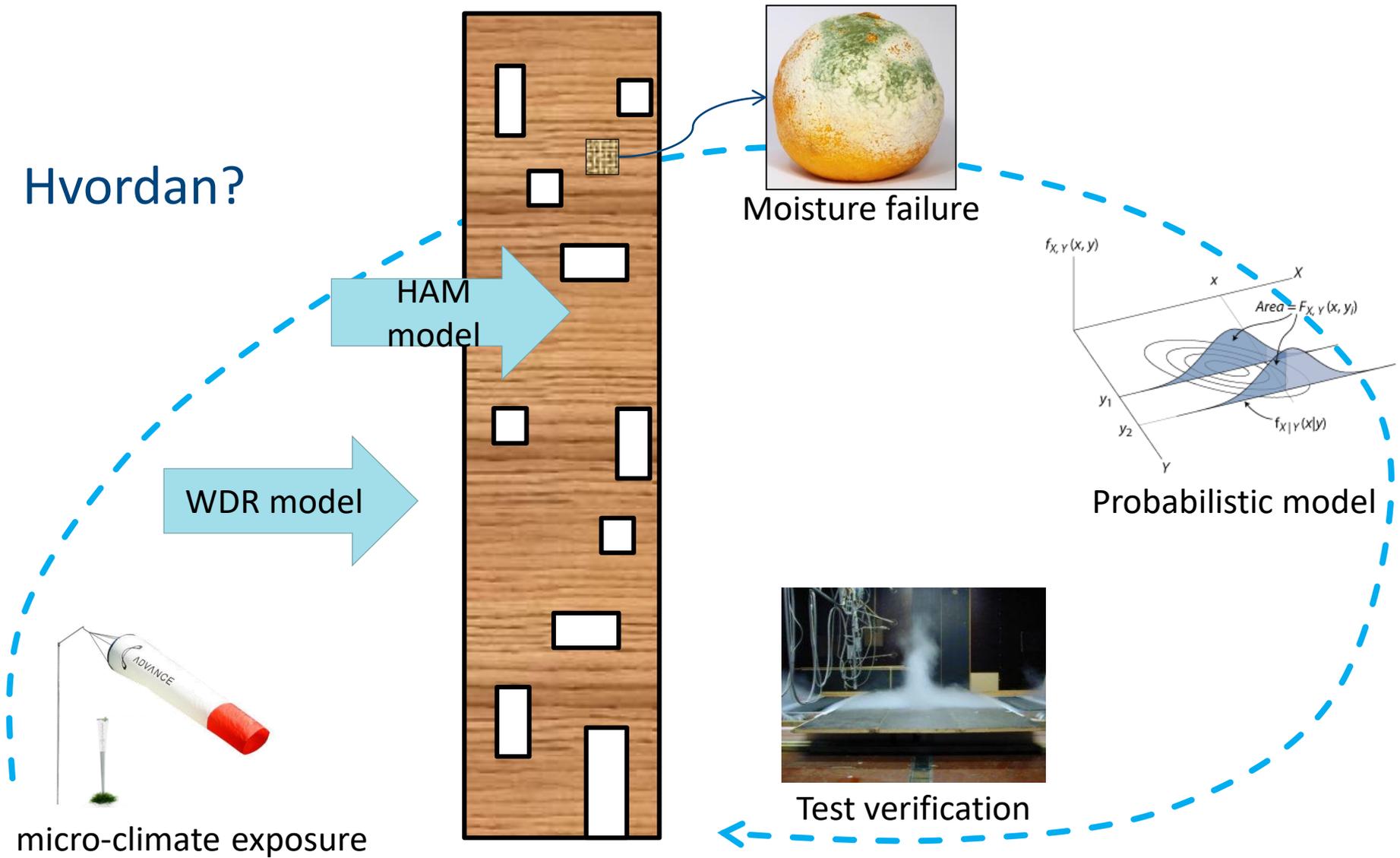
"Develop sustainable,
robust
and cost-effective
safety concepts
to prevent damage by moisture"



Arbeidet er utført i samarbeid med



Hvordan?



WDR: Wind driven rain
HAM: Heat - Air - Moisture

Risikoområder

1. No eave/roof overhang

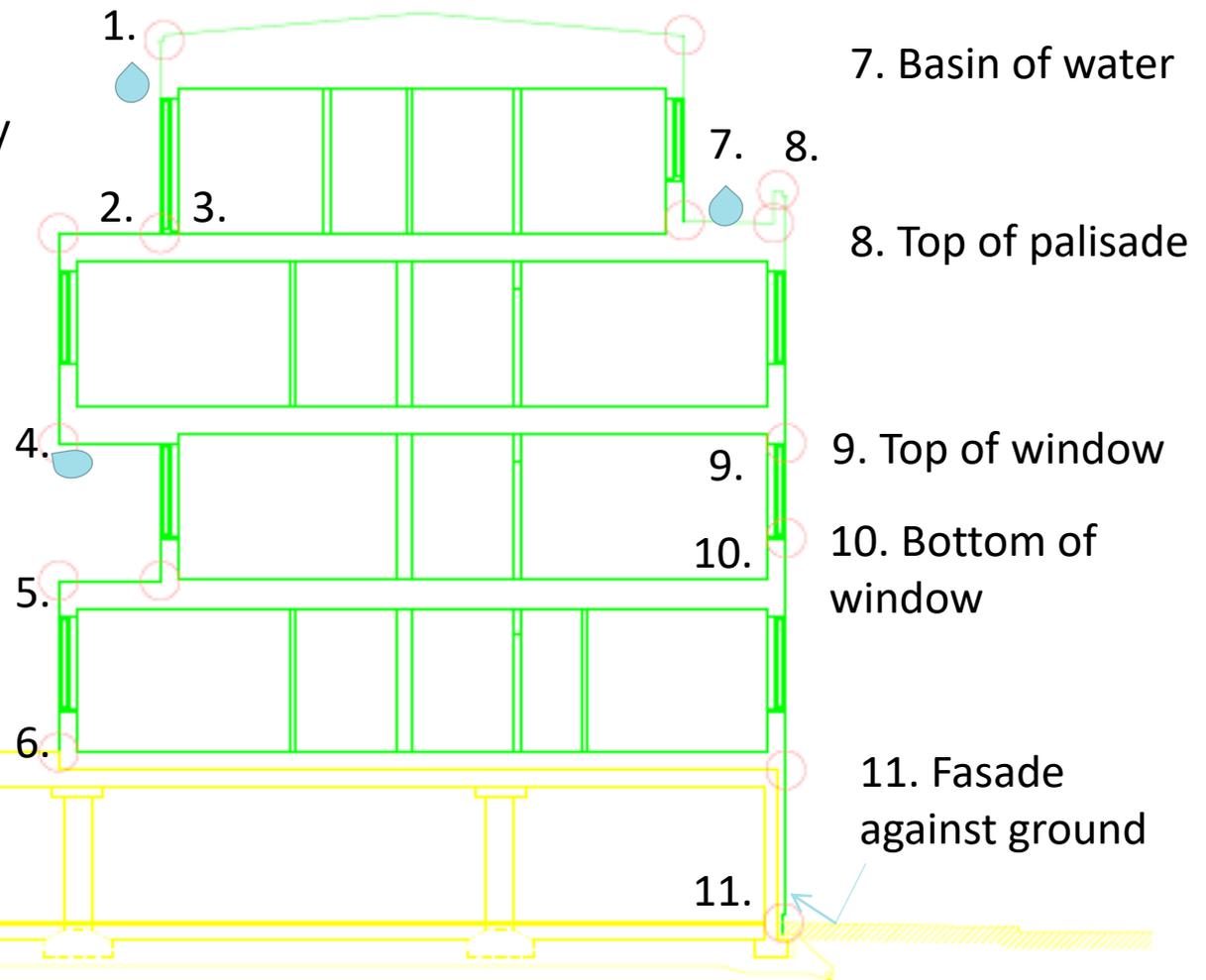
2. Lower part of the balcony door/accessibility

3. Finishing of facade against the floor structure/ balcony

4. Recess of facade under the balcony

5. Facade at indentation floor structure/ horizontal surface

6. Facade against concrete



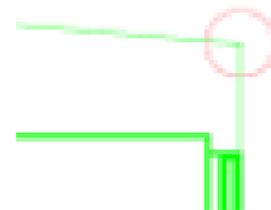
7. Basin of water

8. Top of palisade

9. Top of window

10. Bottom of window

11. Fasade against ground

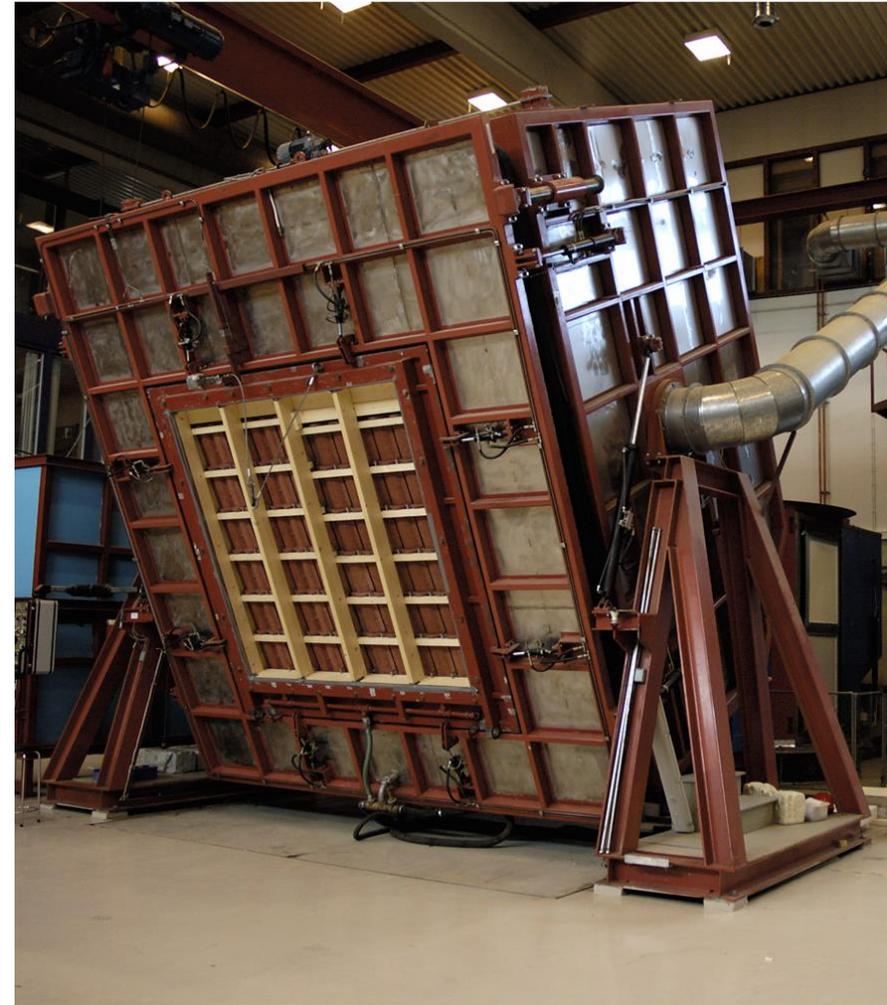


Riskikoområde – skrå tretak med eller uten takutstikk



Hvordan bør slike sammenføyninger detaljeres?
Hvor sensitiv er denne detaljen for inndrev av regn?

- Målinger gjort I Rawi-boksen I SINTEFs laboratorier I Trondheim
 - Trykkforskjell 0-400 Pa
 - Slagregn og vanntåke



Bygging

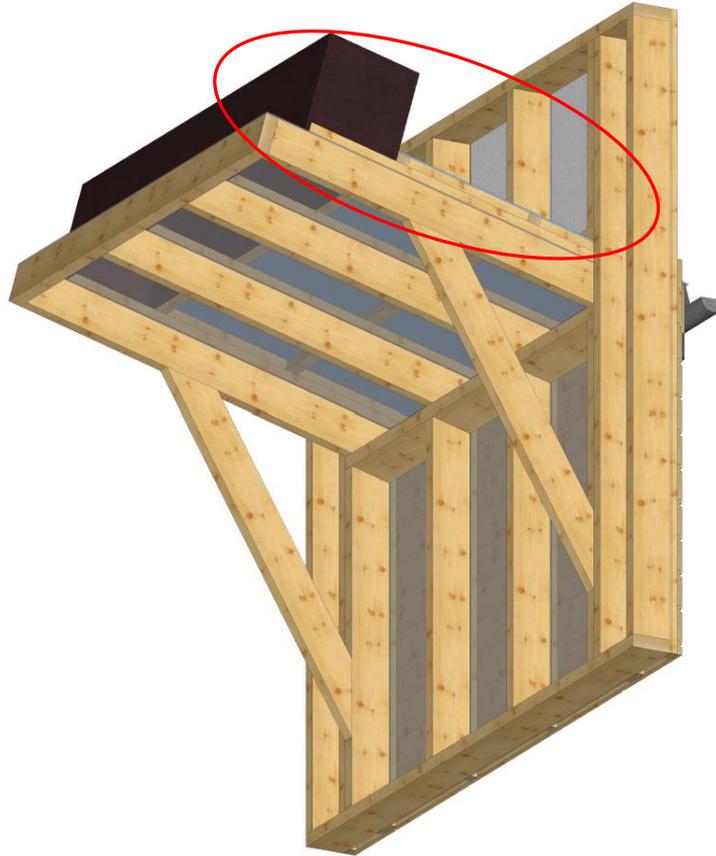


Mer bygging



Prøvefelt - justeringer

- Moving away from the initial 3 in 1 idea
- Design of de-pressurization chamber
- Adjustment of air-speed velocity in roof cavity
- How much water could we anticipate??



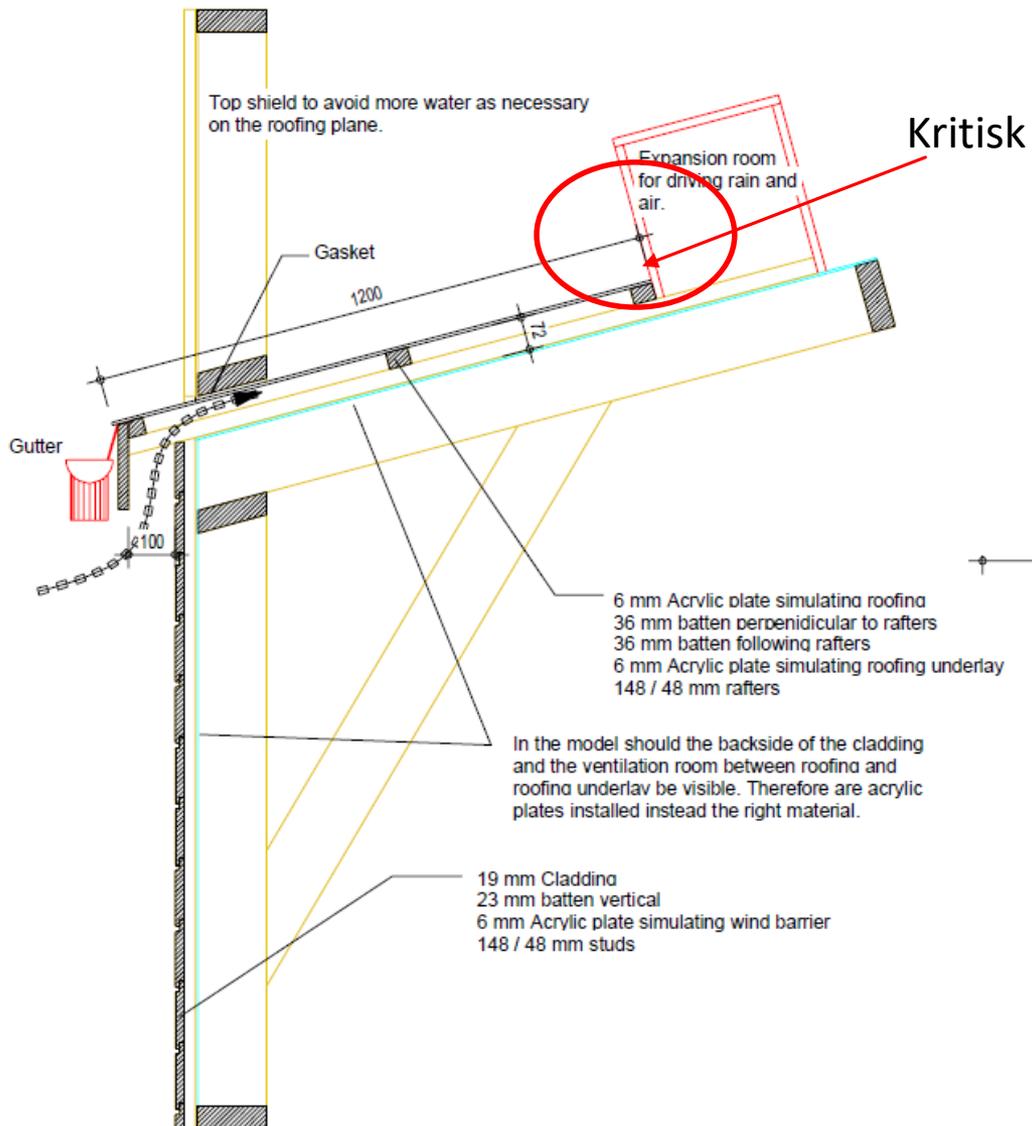
filen: Tall facadev.2d

Prosjekt:
Specimen for testing
Kunde:
SINTEF Byggforsk Trondheim
Tegningsnavn:
Driving rain into the cornice of the roof
Dato: 22.02.2016

Kont: HHA
Tegningnummer: 2/4
Skala: M 1:10

 **SINTEF**
SINTEF Byggforsk
Høgskoleingen 7b
NO-7465 Trondheim

Prøving

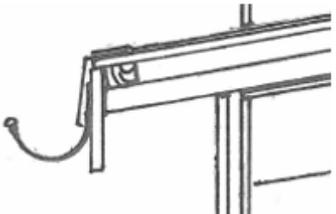
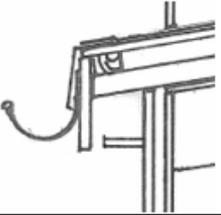
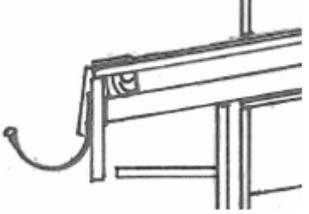
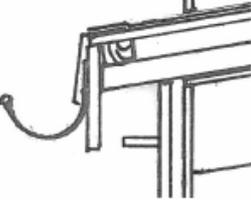
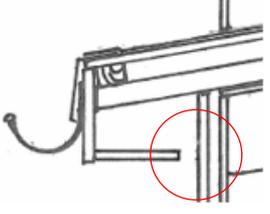


Innledende runder – metodeutvikling

- Trinn 1:
 - I følge NS-EN 12865 m/slagregn ved varierende trykkforskjeller
 - Lite vellykket (mest sannsynlig) pga for store vandrdåper
 - Variasjon av lufthastigheter i spalten mellom undertak/tekking
- Trinn 2:
 - Vannpåføring ved slagregn og vanntåke
 - $dP = 400$ Pa gav målbare resultat
 - Innjustering av "oppsamlersystemet" (reduksjon av dimensjoner på ledelist)

- 0-400 Pa trykkforskjell
- 40 minutters varighet
- Slagregn og vanntåke

Table 2. Test sample configuration overview.

	Configuration A	Configuration B	Configuration C
Test series	Overhang $d = 36$ mm	Overhang, $d = 100$ mm	Overhang, $d = 200$ mm
1			
2	Possibilities?		
3	Possibilities?		

Oppsamling av vann og visuelle observasjoner





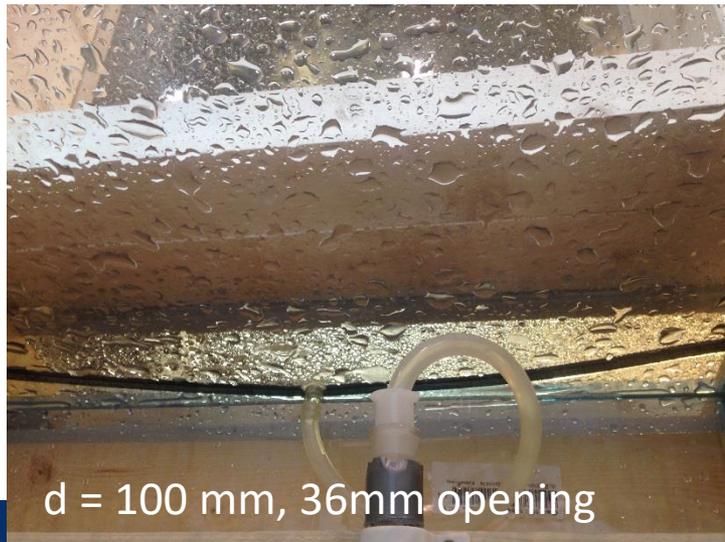
d = 36 mm



d = 200 mm, 36mm opening



d = 100 mm, 36mm opening



d = 100 mm, 36mm opening

Tracer-gass



Hovedfunn

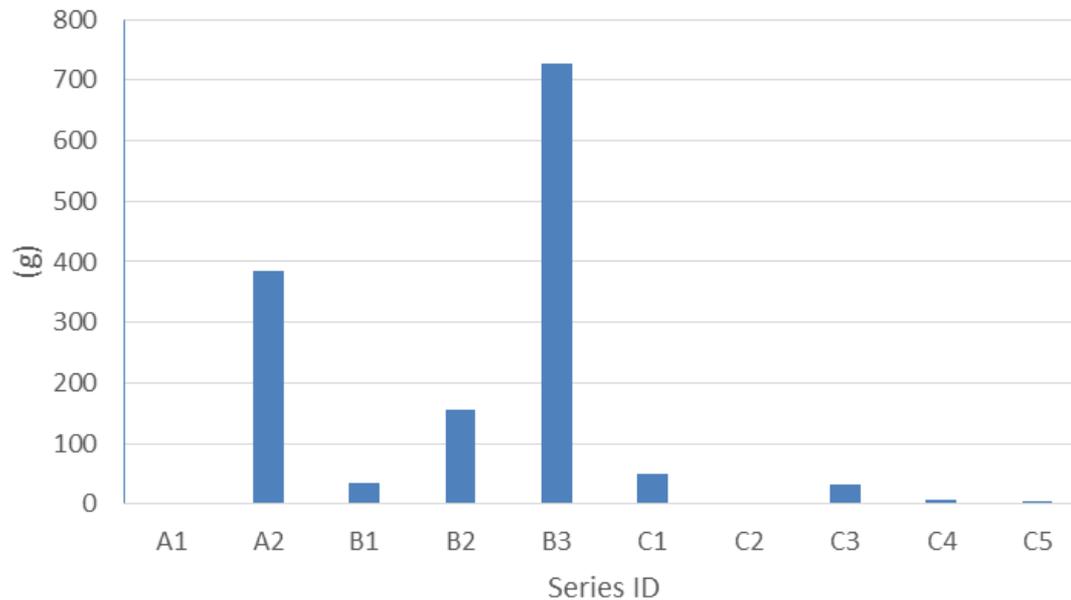
Table. Test configurations and measured retained amounts of water from roof underlay.

Test ID	Overhang length (mm)	Opening (mm)	dP (Pa)	Water collected (g)
A1	36	36	200	-
A2	36	36	400	385,1
B1	100	100	400	35,7
B2	100	18	400	156,1
B3	100	36	400	728,1
C1	200	200	400	50,3
C2	200	18*	400	0,0
C3	200	36*	400	31,9
C4	200	18**	400	8,0
C5	200	36**	400	5,1

* Opening in cladding facing the waterboard

** Opening in deposition chamber towards the cladding

Measured water on roof underlay (g)





Technology for a better society

Takk for oppmerksomheten
Lurer du på noe i etterkant av presentasjonen?
Send en epost til:
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