

Version 17.12.0
REI Company



Roof Dim

**A computer program for trapezoidal
sheeting, Z-beam and stressed skin
design of roofing**

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Partial coefficients
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Country
Lithuania
STR/GEO Set B

Partial coefficients for loads

Gravity load	γ_G	1,35
Wind and snow	γ_Q	1,3
Factor in (6.10b)	ξ	1

Partial coefficients for

- Consequence Class 1	γ_d	0,9
- Consequence Class 2	γ_d	1
- Consequence Class 3	γ_d	1,1

Reduction factors for load combinations

	ψ_0
Snow load 3 and larger	1
Snow load 2 to 2,9	1
Snow load less than 2	1
Wind load	1

Partial coefficients for resistance

- sheeting and purlins	γ_{M1}	1,1
- net section failure	γ_{M2}	1,25
- fasteners	γ_{M2}	1,25

Wind maps of Europe
OK

[illegible]

Overlap
to the right of supp K N 500 350 350 350 350 350 350 350 350 350 350 350 500
no. of screws L S O C 3 3 3 3 3 3 3 3 3 3 3 3 3

Support width C A 100 100 100 100 100 100 100 100 100 100 100 100 100

Double overlap D ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

Double (or 3) sheets D D D D D D D D D D D D D D D

[illegible]☐ New sheeting

End overlap
Screw in ☒ W ☐ F
Diameter

Side overlap

☒ No ☐ Ex ☐ Do

☐ 3 sheets in '3' span

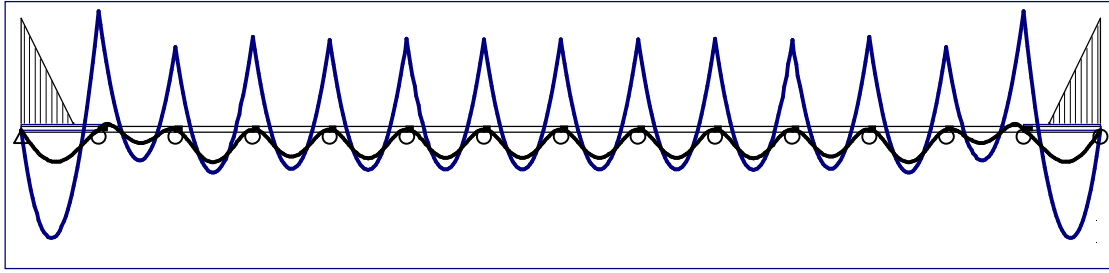
Turn of sheeting

Perforated webs
☒ N ☐ Y

Deflection limit

$L / 200$

Result transverse load
Diaphragm



Roof Dim - Sheetting Version 17.12 (Lithuania)

15:02:13 03-23-2018

Input

Sheetting T60P

Project	Screws in the web														Narrow trough down	
Support no.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Span	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500 mm	
Thickness ...	2,50du	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	2,50du mm	
Inertia, support	1,6E+3	441	441	441	441	441	441	441	441	441	441	441	441	441	mm ⁴	
Inertia, field	1616	441	441	441	441	441	441	441	441	441	441	441	441	441	1616 mm ⁴	
End overlap/screws	2:500/3	2:350/3	2:350/3	2:350/3	2:350/3	2:350/3	2:350/3	2:350/3	2:350/3	2:350/3	2:350/3	2:350/3	2:350/3	2:500/3	mm	
Bearing length	100	100	100	100	100	100	100	100	100	100	100	100	100	100	mm	
Distributed load	2,88	2,65	2,65	2,65	2,65	2,65	2,65	2,65	2,65	2,65	2,65	2,65	2,65	2,65	2,88 kN/m ²	
Dead load	0,40	kN/m ² ($\gamma_Q = 1,30$, $\xi\gamma_G = 1,35$)														
Varying load qv	1,21	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00 kN/m2	
Varying load qh	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,21 kN/m2	
Start a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1500 mm	
Load width b .	3000	0	0	0	0	0	0	0	0	0	0	0	0	0	3000 mm	
Snow	basic value	1,2	shape factor		1,00	shape factor 1,00		Sheet								
	top flange	66	web depth		60	profile pitch 250 mm										
	bottom flange .	66	yield stress ..		320	E-modulus 210000 N/mm ²										
Screws	dimension	6,3	position		W											

Result

Support no.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
M at support	-6,000	-4,000	-5,000	-5,000	-5,000	-5,000	-5,000	-5,000	-5,000	-5,000	-5,000	-5,000	-4,000	-6,000	kNm
Moment in span .	5,585	1,733	2,208	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	2,208	1,733	5,585 kNm
Support react.	6,56	14,63	11,24	12,13	11,91	11,91	11,91	11,91	11,91	11,91	11,91	11,91	12,13	11,24	14,63 6,56
Deflection	22,1	12,5	22,6	12,1	12,1	12,1	12,1	12,1	12,1	12,1	12,1	12,1	22,6	12,5	22,1 mm
M at overlap, left	-2,59	-2,29	-3,07	-3,14	-3,14	-3,14	-3,14	-3,14	-3,14	-3,14	-3,14	-3,14	-2,22	-3,39	kNm/m
M overlap, right ..	-3,39	-2,22	-3,14	-3,14	-3,14	-3,14	-3,14	-3,14	-3,14	-3,14	-3,14	-3,07	-2,29	-2,59	kNm/m
Force between sheet .	7,20	6,86	8,57	8,57	8,57	8,57	8,57	8,57	8,57	8,57	8,57	8,57	6,86	7,20	kN/m
Force in screws ...	3,92	3,99	5,83	5,83	5,83	5,83	5,83	5,83	5,83	5,83	5,83	5,83	4,14	2,93	kN/m
Force per screw	0,327	0,332	0,486	0,486	0,486	0,486	0,486	0,486	0,486	0,486	0,486	0,473	0,345	0,244	kN

Utilization

Consequence Class 2 $\gamma_d = 1,00$

Support no. .	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Moment in span	0,341	0,457	0,583	0,449	0,449	0,449	0,449	0,449	0,449	0,449	0,449	0,449	0,583	0,457	0,341
M at support	0,289	0,509	0,640	0,640	0,640	0,640	0,640	0,640	0,640	0,640	0,640	0,640	0,509	0,289	
Interaction at support	0,082	0,230	0,248	0,243	0,243	0,243	0,243	0,243	0,243	0,243	0,243	0,243	0,230	0,082	
Support react.	0,085	0,082	0,230	0,248	0,243	0,243	0,243	0,243	0,243	0,243	0,243	0,243	0,230	0,082	0,085
Deflection	0,981	0,554	1,003	0,539	0,539	0,539	0,539	0,539	0,539	0,539	0,539	0,539	1,003	0,554	0,981
Moment at end of overlap	0,894	0,604	0,829	0,829	0,829	0,829	0,829	0,829	0,829	0,829	0,829	0,829	0,604	0,894	
Shear force	0,193	0,184	0,230	0,230	0,230	0,230	0,230	0,230	0,230	0,230	0,230	0,230	0,184	0,193	
Screws in the web	0,148	0,247	0,362	0,362	0,362	0,362	0,362	0,362	0,362	0,362	0,362	0,352	0,257	0,111	

Max utilization, strength 0,894 OK deflection 1,003 OK

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