Project: VRK-24

Updated: 2024-10-04 06:31 (GMT)

Created: 2021-07-30 11:35 (GMT)

Customer:

National annex: Basic NA

Contact person: Ainars Grazulis

Engineer's contact info: Self employed

Email: ainars.grazulis@gmail.com

Telephone number: +371 29507052

ID	Structural part	Updated	Created
1	Sija1	2024-10-04 06:27 (GMT)	2021-07-30 11:36 (GMT)

Structural part: Sija1

Updated: 2024-10-04 06:27 (GMT) **Version:** 1.1.40 (2024-09-09)

Created: 2021-07-30 11:36 (GMT)

Reliability class: RC2

Structure type: Roof purlin

Roof slope: 0 °

Deflection limit: L/100 (according to NA)

Profile type: Z-profile

Purlin direction: Longitudinal

Purlin orientation: Wide flange top

Bottom flange deflection restricted: No

Design according to testing: No

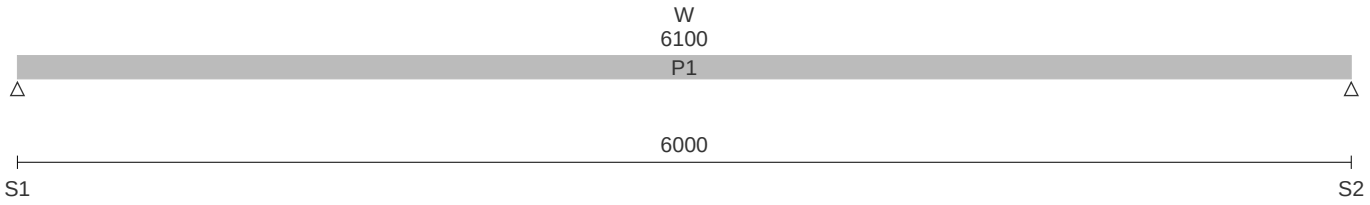
Chosen purlins fulfill design criteria. Maximum utilization rate: 88.2 %

Chosen fasteners fulfill design criteria. Maximum utilization rate: 18.1 %

Structural model

Left end: Distance to end of purlin: 50 mm

Right end: Distance to end of purlin: 50 mm



Selected purlin: LP-Z200

Purlin interval: 1000 mm

Total weight of the purlins: 4.4 kg/m^2

Global warming potential, GWP (A1...A3): 11.5 kg CO_2 eq. / m^2 Zinc-coated

Span	Thickness	Length
	[mm]	[mm]
P1	1.5	6100

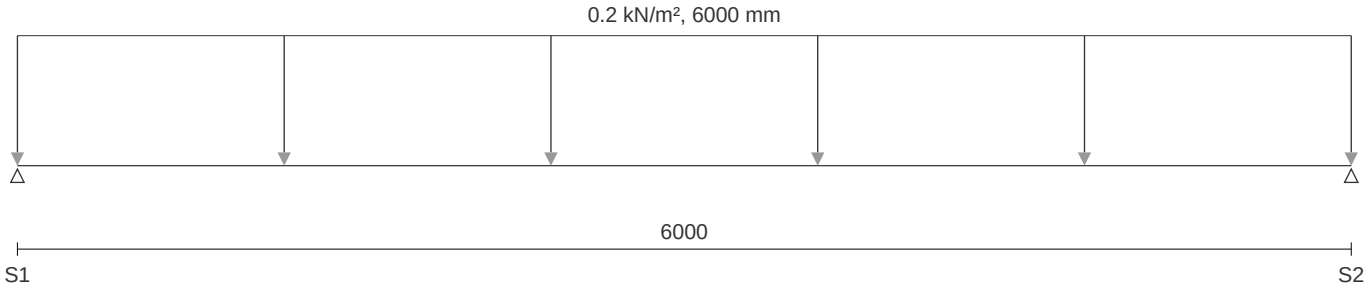
Supports and joints

Support	Axial support	Joint type
S1	Yes	End support
S2	Yes	End support

Dead load

Structure weight without purlins and sheeting: 0 kN/m^2

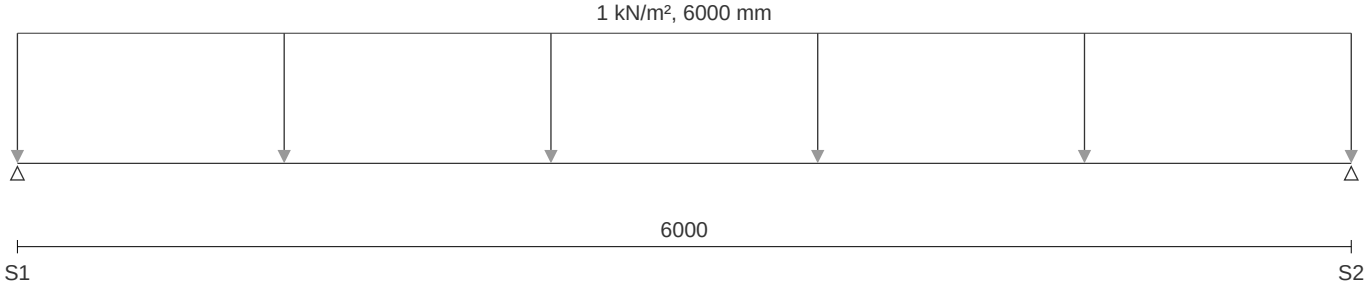
Total weight of the sheeting: 0 kN/m^2



Snow load

Basic snow load: 0 kN/m^2

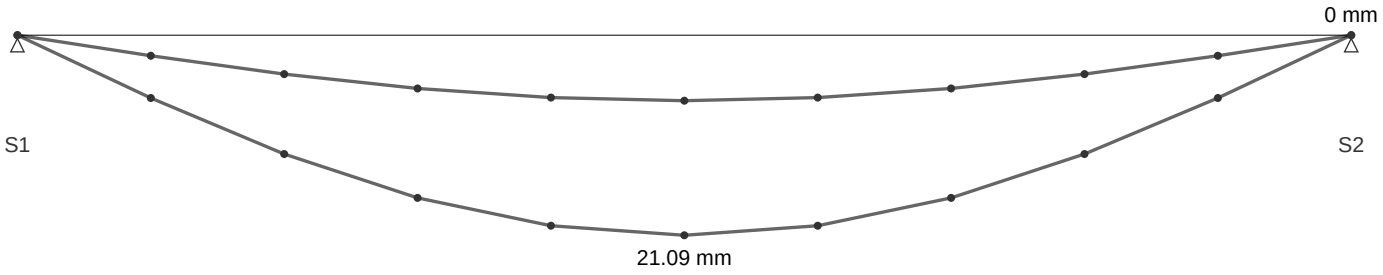
Movement: 0 %



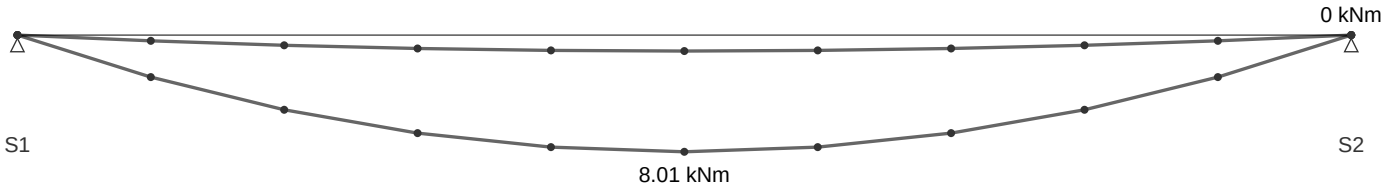
Utilization rates

Purlin	M	N	V	N/V/M	σ	D
	[kNm]	[kN]	[kN]		[MPa]	[mm]
P1	8.0 / 9.1 88.2 %	0.0 / 97.2 0.0 %	5.3 / 25.4 21.1 %	88.2 %	-308.7 / 350.0 88.2 %	21.1 / 30.0 70.3 %

Deflection



Bending moment



Fasteners

Cleat wall thickness: 5 mm

Cleat steel grade: S355J2 (355/490)

Web fastener: M12 8.8

Upper flange support from load bearing sheet

Positioning of sheeting: Wide flange of the sheet fixed to purlin

Continuity of the sheet: Multi-span structure

Sheet fastener distance in upper flange: 50 %

Fixing interval: Through every through

Load bearing sheet name: T45-30-905

Nominal sheet thickness: 0.6 mm

	Support fasteners		
Support	**pcs / support**	**Utilization rate**	**Design criterion**
		[%]	
S1	2	18.1	Bearing
S2	2	18.1	Bearing

Amount of fasteners

Total amount: 4 pcs / purlin row