

A photograph showing a close-up view of the Posi Joist system. It consists of several parallel wooden joists supported by a series of metal brackets. The brackets are made of galvanized steel and have a distinctive shape with a perforated base. The background is a clear blue sky.

Techninis Aprašas

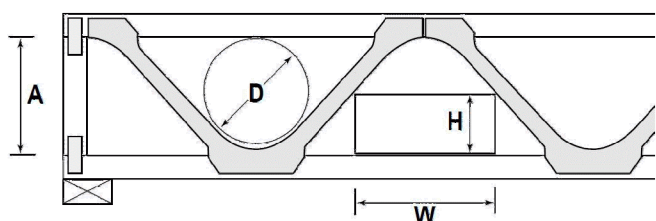
Posi Joist - Grindys ir perdangos

Sijų matmenys

Posi joists perdangų sistema gali būti gaminama įvairių aukščių. Pagal konstrukcines inžinerines specifikacijas arba pageidaujamą perdangos plotį yra galimos įvairios laikančio tinko konfigūracijos. Nuo PS 8 iki PS 16. Pagal pasirinktus sijų tinklo atstumus yra nustatomas reikalingas perdangos aukštis.

Tipas	Tarpas [mm]	Bendras aukštis [mm]
PS 8	108	202
PS 9N	134	225
PS 10N	159	253
PS 12	210	304
PS 14N	282	373
PS 16N	330	421

Tarpai komunikacijoms



Tarpai esantys perdangos viduje leidžia patogiai išvedžioti vandens, dujų, ventilacijos ar šildymo komunikacijas, išlaikant "švarų" patalpos aukštį bei estetišką vaizdą. Nurodomi komunikacijų matmenys gali skirtis, priklausomai nuo jų tipo ir paskirties.

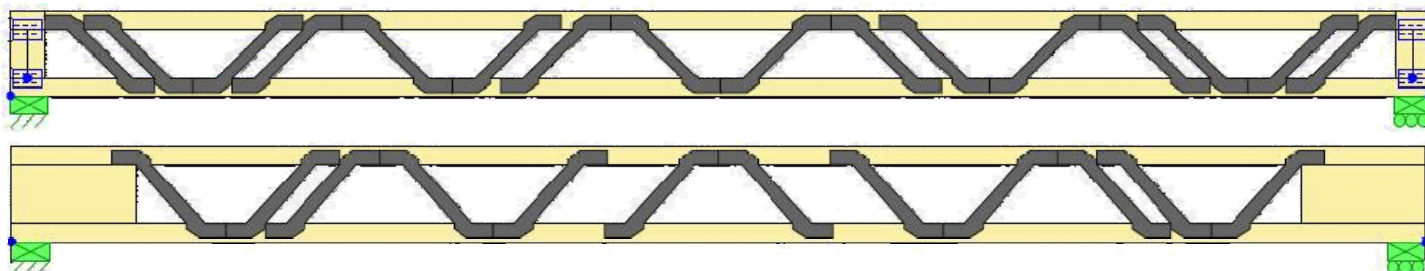
Sijų tipas	A [mm]	D [mm]	kvadratas [mm]	Stačiakampis H [mm]							
				50	75	100	125	150	175	200	
				Stačiakampis W [mm]							
PS 8	108	105	95	270	180	90					
PS 9	134	130	115	310	240	180	100				
PS 10	159	150	135	320	270	210	160	80			
PS 12	210	190	155	350	310	260	210	160	110	70	

Posi joist end and bearing

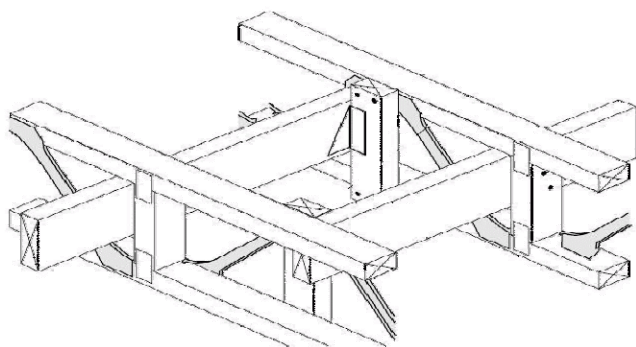
The end of the Posi joist beam offers two different design options.

1. Framed and fixed with connector plates.
2. Solid timber or plywood bar, up to 500 mm length on each end. This strengthens the bearing and allows to transfer higher loads. Second it offers to length cut the posi joist on site.

Another option to improve the load capacity are double webs, reinforcing the end or in between with an extra single web. Optional the orientation of a full V-shape web might be changed in order to have two full webs very close to each other. Finally the spacing between the joist might be shortened to gain more direct load taking joists per m².



Improved load distribution and load bearing



The MiTek engineering software provides the timber section for the strong backs and the exact fixing points at the single joists.

In case of a spliced strong back, the size and type of splice plate required is generated automatically. Alternatively splices from timber or plywood might be used on site. The software specifies those optional as well.

To improve the load bearing, the loads can be distributed more evenly over several joists by introducing „strong backs“. To fix the strong back on the joist, preassembled metal hangers are used. Alternatively timber blocks might be used for onsite reinforcement, being nailed to the flanks of the joists cords.

Unsupported span and load assumptions

Load assumption for below table:

Traffic load: **2 kN**

Dead load: **2 kN** (Concrete top floor)

Bearing: Flat on bottom cord.

Beam end: Framed or trimmable

(soild timber bar infill 500mm)

Timber section of cords:

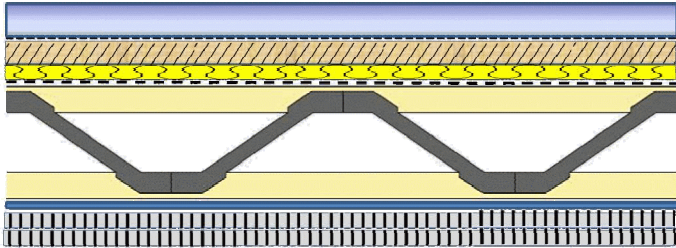
47 mm x 72 mm up to 47 mm x 147 mm

Type	Joist height [mm]	Spacing [mm]	max. unsupported free span [mm]			
			47 x 72	47 x 97	47 x 122	47 x 147
PS8	202	400	3500	3750	3900	3900
		600	2750	3000	3000	3000
PS9	225 Trimmable	400	3500	3900	4200	4400
		600	3000	3200	3200	3200
		600	3400	3750	4000	4250
PS10	254	400	3900	4000	4400	4600
		600	3000	3200	3400	3400
PS12	302	400	4000	4000	4250	4250
		600	3000	3000	3000	3000
PS12N	302 Trimmable	400	4200	4700	4800	5000
		600	3200	3200	3600	3700
		600	3750	4000	4250	4500
PS14	373	400	4250	4250	4250	4250
		600	3200	3200	3300	3300
PS16	421	400	4500	4500	4500	4500
		600	3300	3300	3300	3300

In accordance to the load assumptions of the subfloor and flooring (dead load) and traffic load, the **unsupported free span** of Posi Joist can exceed 6 meters. The max. standard production length is 11 meters which might be exceeded by using an extended press in / out feed .

Noise protection

Posi joists are capable of carrying heavy loads, like heavy subfloors while providing excellent air and body sound insulation values. Posi joists are suitable as a ceiling / floor system for multistorey apartment buildings, hotels, office buildings or family homes.



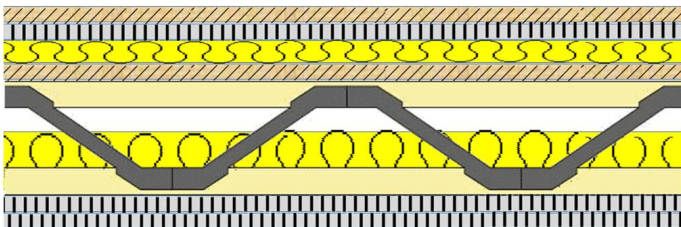
Floor detail for Rw 59 dB / Ln,w 57 dB

40 mm screed ,1950 kg/m²
 Moisture barrier
 25 mm timber fibre floor sheeting ,270 kg/m³
 10 mm step noise insulation ,28 kg/m³.
 5 mm protection foil sealing
 22 mm flooring chipboard T&G (650 kg/m³)
 PS 10 , cords 47mm x 70mm , C24.
 Noise spacer C profile
 15 mm gypsum board (12,5 kg/m²)
 15 mm gypsum board (12,5 kg/m²)

Partially infill with mineral wool insulations improves the noise protection and fire resistance of the Posi joist floor.

Fire resistance

Fire testing has proved that Posi joist floor systems fulfill 60 minute fire resistance criteria without any extraordinary efforts. The testing provided fire from below.



Tested according to BS 476:Teil 21:1987 and an applied traffic load of 2 kN/m².

Floor detail for F 60

18 mm flooring chipboard T&G
 19 mm gypsum board, fire rated
 25 mm step noise insulation, 36 kg/m³
 18 mm flooring chipboard T&G
 PS 8 Posi joist, cords 97mm x 47mm
 100 mm Rockwool, 28 kg/m³
 12,5 mm gypsum board, fire rated
 12,5 mm gypsum board, fire rated

Production length and spliced cords

Posi joists may be manufactured in any length. The top and bottom chord may be spliced using standard timber trade length ranges or mixing stock material of various length, minimizing cut off waste. Splice joints are to be fingerjointed or jointed using MiTek connector plates type M 20 .

The exact position of the splice joint may be defined in the MiTek design software and be structurally engineered. This guarantees that always the most efficient design length can be applied, while the timber usage is still optimized to existing stock length or trade ranges.

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