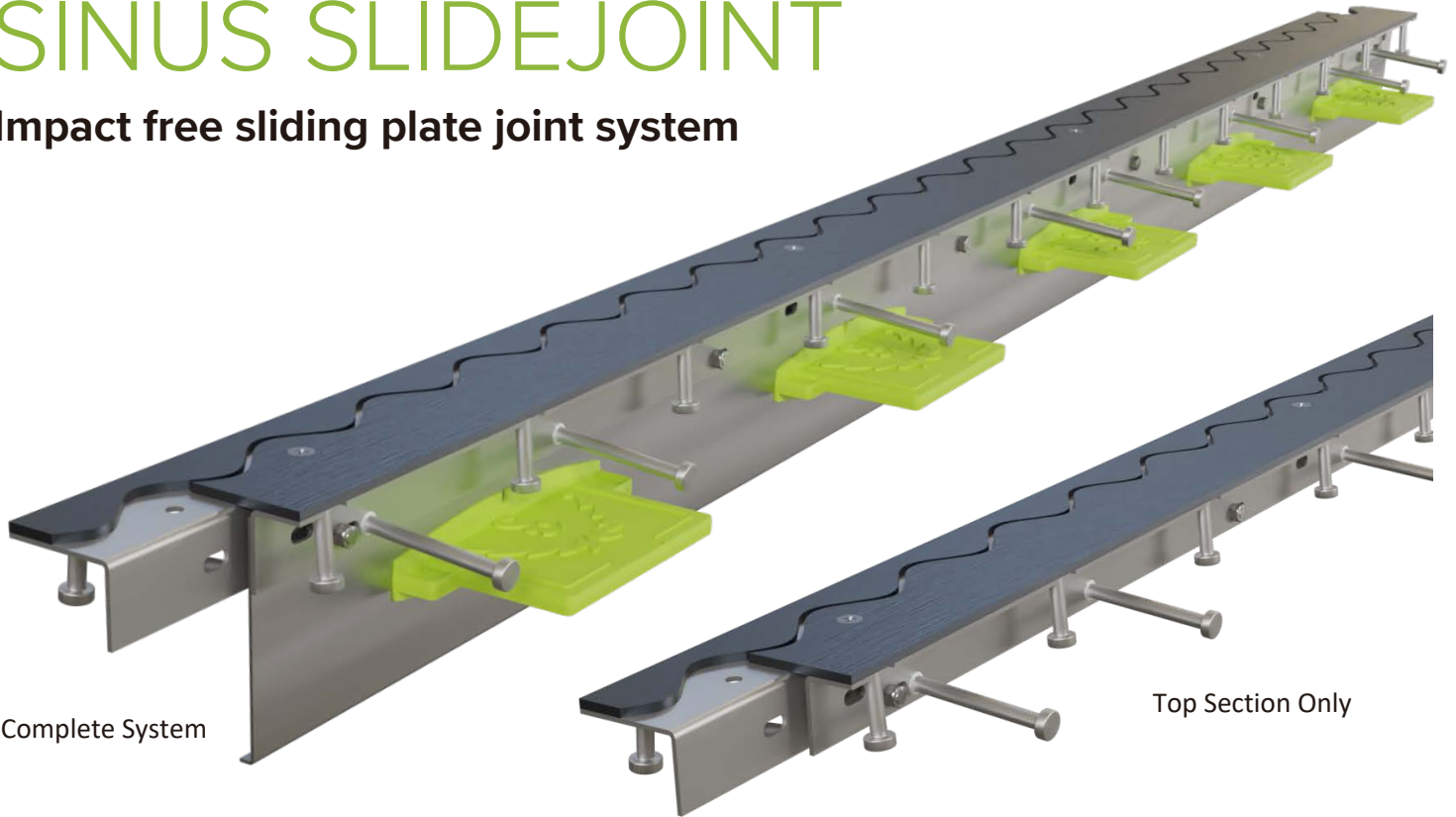


SINUS SLIDEJOINT

Impact free sliding plate joint system



System Benefits

- Prefabricated Steel Armoured Free Movement Joint System
- The Sinus opening allows AGV wheels to roll smoothly over the joint
- Robust heavy duty design incorporating welded studs directly attached to both the body and the top plates for superior performance and longevity
- Countersunk nylon top plate securing screws ensures alignment and allows trowel machine to pass over the edge
- Available in Plain Steel Finish or Zinc Galvanised
- Utilises Peikko TERA Dowel Load Transfer System
- Can be used for joint openings up to 20mm wide
- Suitable for slab thickness/depth from 150mm up to 300mm
- Available as Top Section Only for use on PT slabs etc.
- Available in 2.4 metre lengths

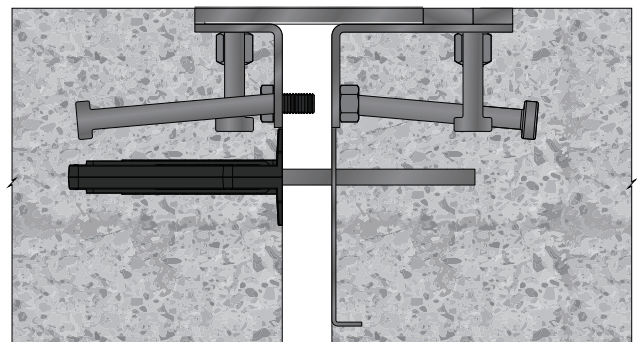
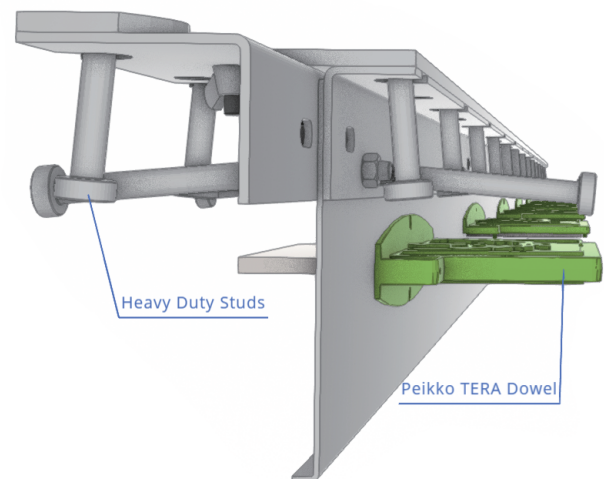
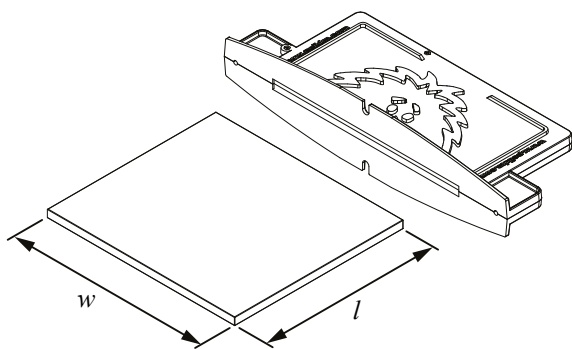
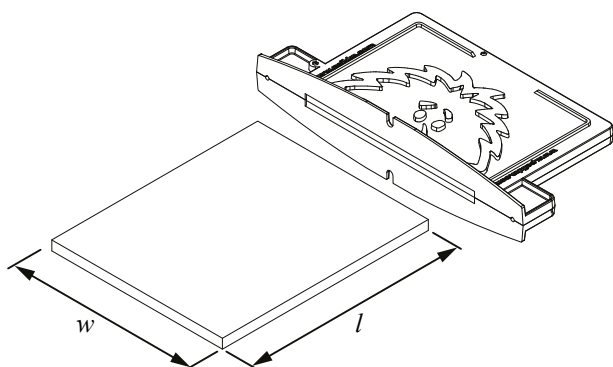


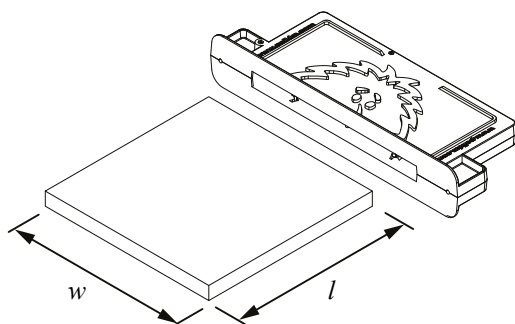
Table 1. SINUSJOINT® Dowel Types.



Dowel Type	TERADOWEL Rectangular 6 mm TDR-6
Thickness	6 mm
Dimensions $w \times l$	150 mm x 135 mm
Sleeve Color	Green
Adjustable Joint Opening	0 ~ 15 mm



Dowel Type	TERADOWEL Rectangular 6 mm TDR-8
Thickness	8 mm
Dimensions $w \times l$	145 mm x 175 mm
Sleeve Color	Gray
Adjustable Joint Opening	15 ~ 20 mm



Dowel Type	TERADOWEL Rectangular 6 mm TDR-12
Thickness	12 mm
Dimensions $w \times l$	150 mm x 150 mm
Sleeve Color	Blue
Adjustable Joint Opening	15 ~ 20 mm

Materials

Table 2. Materials and standards of SINUS SLIDE JOINT TJ6 RD.

Version	Top Rails + Anchors	Divider Plate	Plate Dowels	Shear Connectors	Sleeves
SINUS SLIDE	S235JRC + C	DC01	Q345	S235J2 + C450	ABS, Green
SINUS SLIDE HDG	S235JRC + C HDG	DC01 HDG	Q345 HDG	S235J2 + C450 HDG	ABS, Green

HDG = Hot dip galvanized. Standard for black steel EN 10025 and EN 10088.

Table 3. Materials and standards of SINUS SLIDE JOINT TJ8 RD.

Version	Top Rails + Anchors	Divider Plate	Plate Dowels	Shear Connectors	Sleeves
SINUS SLIDE	S235JRC + C	DC01	Q345	S235J2 + C450	ABS, Gray
SINUS SLIDE HDG	S235JRC + C HDG	DC01 HDG	Q345 HDG	S235J2 + C450 HDG	ABS, Gray

HDG = Hot dip galvanized. Standard for black steel EN 10025 and EN 10088.

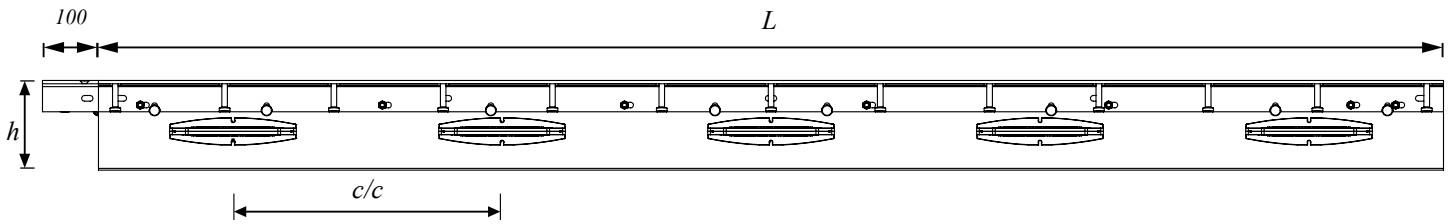
Table 4. Materials and standards of SINUS SLIDE JOINT TJ12 RD.

Version	Top Rails + Anchors	Divider Plate	Plate Dowels	Shear Connectors	Sleeves
SINUS SLIDE	S235JRC + C	DC01	Q345	S235J2 + C450	ABS, Blue
SINUS SLIDE HDG	S235JRC + C HDG	DC01 HDG	Q345 HDG	S235J2 + C450 HDG	ABS, Blue

HDG = Hot dip galvanized. Standard for black steel EN 10025 and EN 10088.

Dimensions

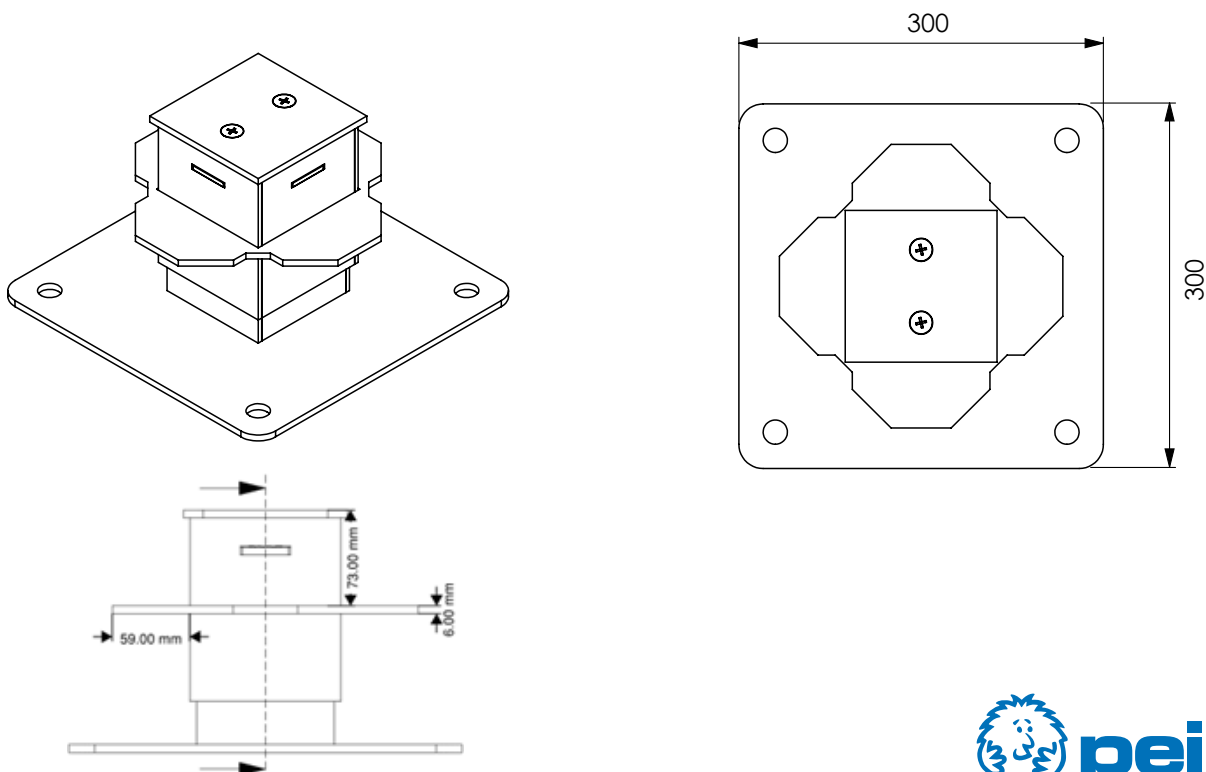
Table 5. Dimensions [mm] of SINUS SLIDE JOINT TJ6 RD, TJ8 RD and TJ12 RD.



Type	Height h	Dowel Type	Dowel Centers c/c	Length L	Weight [kg]	Adjustable Slab Depth *	Sleeve Color
SS6-145-2400 RD	145 mm	TDR-6	480 mm	2400 mm	32.2	155 ~ 170 mm	Green
SS6-160-2400 RD	160 mm				32.6	170 ~ 195 mm	
SS6-185-2400 RD	185 mm				33.8	195 ~ 225 mm	
SS6-215-2400 RD	215 mm				35.2	225 ~ 250 mm	
SS8-145-2400 RD	145 mm	TDR-8	480 mm	2400 mm	38.3	155 ~ 170 mm	Gray
SS8-160-2400 RD	160 mm				39.6	170 ~ 195 mm	
SS8-185-2400 RD	185 mm				40.2	195 ~ 225 mm	
SS8-215-2400 RD	215 mm				41.8	225 ~ 250 mm	
SS12-145-2400 RD	145 mm	TDR-8	480 mm	2400 mm	41.2	155 ~ 170 mm	Blue
SS12-160-2400 RD	160 mm				42.5	170 ~ 195 mm	
SS12-185-2400 RD	185 mm				43.8	195 ~ 225 mm	
SS12-215-2400 RD	215 mm				45.1	225 ~ 250 mm	

If the height requirements are different from those indicated in Table 5. Peikko technical support will design SINUS SLIDE JOINT with a custom height for clients.

Universal Intersection



2. Resistances

Resistances of the SINUS SLIDE JOINT TERA dowels are determined according to UK Concrete Society TR34.4 published August 2013. All calculated design resistances are for single plate dowels.

Table 9. Design resistances of dowels in shear and bearing/bending [kN] according TR34.4 for C32/40.

Dowel Type	Joint Opening x	Shear Psh	P Max Plate
TDR-6	15 mm	150.1	42.8
TDR-8	20 mm	193.4	55.4
TDR-12	20 mm	300.1	107.0

Table 10. Design punching shear resistance [kN] of TDR-6 according TR34.4 for 15 mm joint opening..

Slab Thickness	Punching Pp C25/30	Punching Pp C28/35	Punching Pp C30/37	Punching Pp C32/40	Punching Pp C35/45
100 mm	11.2	11.8	12.2	12.6	13.2
150 mm	17.3	18.3	19.0	19.6	20.5
200 mm	24.5	25.9	26.8	27.7	29.0
250 mm	32.7	34.6	35.8	37.0	38.7

Table 11. Design punching shear resistance [kN] of TDR-8 according TR34.4 for 20 mm joint opening.

Slab Thickness	Punching Pp C25/30	Punching Pp C28/35	Punching Pp C30/37	Punching Pp C32/40	Punching Pp C35/45
150 mm	17.9	18.9	19.6	20.2	21.2
200 mm	25.2	26.6	27.6	28.5	29.8
250 mm	33.5	35.4	36.7	37.9	39.6

Table 12. Design punching shear resistance [kN] of TDR-12 according TR34.4 for 20 mm joint opening.

Slab Thickness	Punching Pp C25/30	Punching Pp C28/35	Punching Pp C30/37	Punching Pp C32/40	Punching Pp C35/45
150 mm	17.1	18.1	18.7	19.3	20.2
200 mm	24.2	25.6	26.5	27.4	28.6
250 mm	32.4	34.3	35.5	36.6	38.3

The punching shear resistances are calculated for plain concrete without any kind of additional reinforcement, and according TR34.4 should be used also for steel and macro-synthetic fiber reinforced concrete.

If resistances for other joint openings or concrete grades are needed, please contact Peikko Technical Support.

Selecting SINUS SLIDE JOINT Free Movement Joint

SINUS SLIDE is selected according to following criteria:

- **Slab depth.** It is recommended that the joint depth is at least 10 mm shallower than the slab depth. Advisable slab depths are stated in *Table 5*.
- **Designed joint opening.** For joint openings of up to 15 mm wide, we recommend SINUS SLIDE TJ6 RD. For joint openings from 15 to 20 mm wide SINUS SLIDE TJ8 RD is recommended. Whereas for pile supported slabs, we would only recommend the use of SINUS SLIDE TJ12 RD.
- **Environment.** For internal floors we would suggest the basic steel plain SINUS SLIDE version. When corrosion resistance is required, SINUS SLIDE HDG (Hot Dipped Galvanised) version is recommended, and for a more aggressive external environment or high hygienic requirement, SINUS SLIDE can be designed in Stainless Steel .
- **20 mm designed joint opening.** This refers generally to 50 x 50 m slab size limiting dimensions of jointed floors, and a 35 x 35 m of jointless floors. A wider joint opening is possible, but resistances must be reduced accordingly, however, this is not practical due to the increase of dynamical impact during joint transition. If there is a design requirement for wider joint openings, Peikko can offer suitable solution from its extensive flooring product range.
- **Joint aspect ratio.** Individual slabs should ideally have an aspect ratio of 1:1, this may not always be possible, but the ratio should never exceed 1:1.5.

A further recommendation is to assist prevention of restraint, by separation of the fixed elements from the slab, with the use of flexible compressible foam filler, with a thickness of at least 20 mm, also by avoiding re-entrant corners and avoiding point loads at joints.



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