ROAD JOINTS

WP EXPANSION JOINT

Data sheet n°: CV1-9

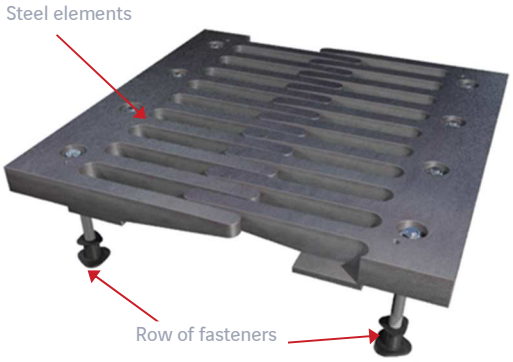
- Robust
- Large movement
- Easy maintenance
- Silent
- User comfort

Introduction

Expansion joints for road bridges are used to ensure the continuity of the running surface and its load bearing capacity (safety and comfort of the users) while guaranteeing the structure freedom of movement.

Description

The WP joint is a cantilever joint consisting of pairs of individual steel elements with parallel saw teeth. These 1-metre units are installed end-to-end to form the joint line. They are anchored to the main structure by high prestressed fasteners.



WP joint overview

Applications

WP joints can be used for all types of structures:

- Concrete, steel and composite structures
- Slab, cable-stayed, suspension, lifting or tilting bridges
- New build or repair works

Compiegne bridge (France) equipped with WP450 and WP850

Advantages

- **Robustness** owing to simple design using independent oxy cut saw teeth elements
- **High durability** using efficient tension control bolts
- **Perfect road surface continuity** due to the presence of the teeth enabled operation with no gap, to ensure user comfort and significantly reduced noise over the joint
- **Easy maintenance** and **reduced traffic disruption** due to the easily accessible anchor bolts and one-meter long sections for removal of the joint if necessary, without interrupting traffic except on the affected lane
- **Large movement** capacity up to 1,400 mm

Grand Canal bridge, Saint-Nazaire (France)

Installation

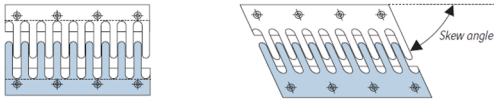
The WP joint is installed on site by expert Freyssinet teams. The metallic elements of the joint are securely anchored to the structure using prestressed fasteners.
Installation of the complete line can be done in one phase or lane by lane to avoid traffic.
To guaranty perfect levelling with the road surface, joints are installed after the asphalt has been applied.

A71 Highway equipped with WP250

WP EXPANSION JOINT

Movement range

The WP joint is manufactured on request and may be adapted to the movement direction of the main structure: straight or skew.



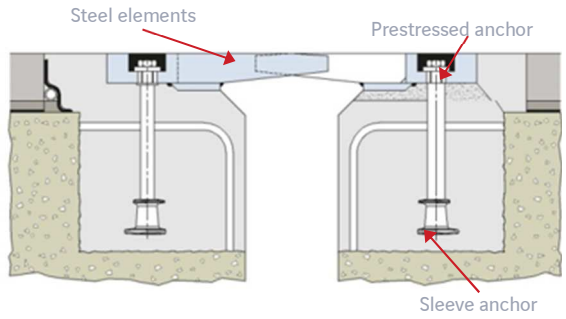
Straight WP and skew WP

Water collector

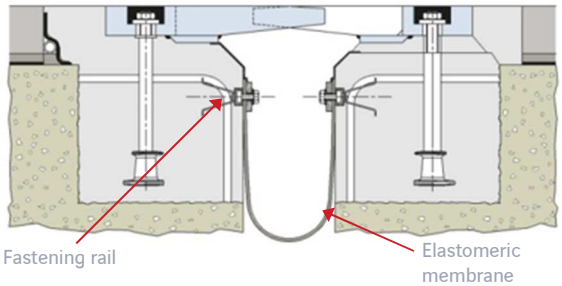
A system for recovering runoff water may be combined with basic WP joints (type 1).

The system comprises either:

- A continuous elastomeric looped membrane over the entire length of the joint (type 2)
- An elastomeric profile inserted between the metallic elements (type 3)
- Two elastomeric or stainless-steel sheets collector with a gutter located under the joint (type 4).



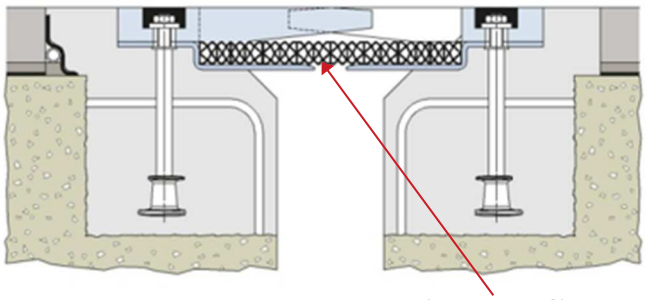
WP type 1



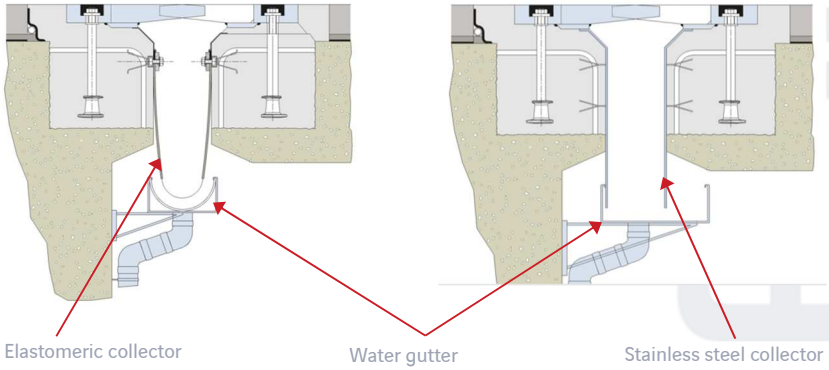
WP type 2

Close-up view of WP500 elastomeric membrane – Abidjan Riviera Marcory

Details of the elastomeric membrane



WP type 3

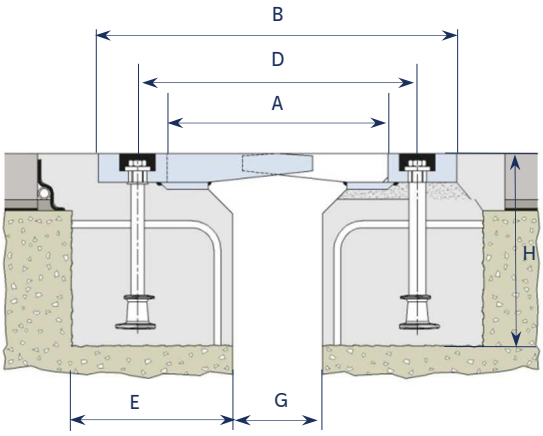


WP Type 4

WP EXPANSION JOINT

General dimensions

WP Type 1, 2, 4



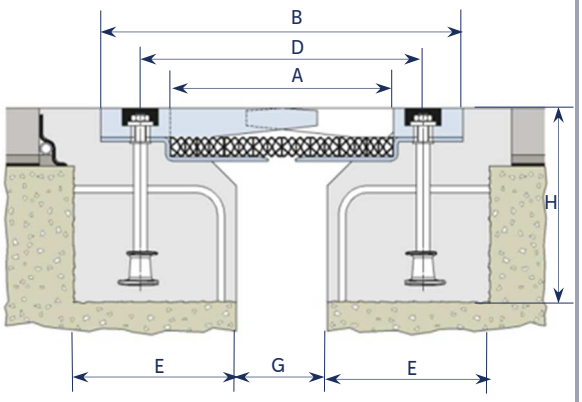
Type	A		B		D		G		E	H
	mini	maxi	mini	maxi	mini	maxi	mini	maxi	mini	mini
WP60	80	140	240	300	190	250	20	80	210	200
WP80	100	180	280	360	190	270	40	120	220	250
WP100	120	220	340	440	230	330	60	160	240	250
WP120	140	260	460	580	350	470	80	200	290	350
WP160	180	340	500	660	390	550	120	280	290	350
WP180	200	380	520	700	410	590	140	320	290	350
WP200	220	420	580	780	455	655	160	360	310	350
WP250	270	520	510	760	370	620	50	300	330	350
WP300	320	620	590	890	410	710	50	350	370	350
WP350	370	720	650	1000	470	820	50	400	400	350
WP400	420	820	740	1140	540	940	50	450	445	350
WP450	470	920	810	1260	550	1000	50	500	480	350
WP500	520	1020	890	1390	610	1110	50	550	520	350
WP550	570	1120	960	1510	670	1220	50	600	555	350
WP600	620	1220	1020	1620	720	1320	50	650	585	350
WP650	670	1320	1140	1790	770	1420	50	700	645	350
WP700	720	1420	1160	1860	820	1520	50	750	655	350

Dimensions in mm
Models up to WP1400 can be supplied. Contact us

WP 500 under installation ½ carriage way (Saint-Nazaire Bridge France)

Europe bridge, Orléans (France) equipped with WP 250

WP Type 3



Type	A		B		D		G		E	H
	mini	maxi	mini	maxi	mini	maxi	mini	maxi	mini	mini
WP3 200	220	420	820	1020	600	800	120	320	560	350
WP3 250	270	520	900	1150	670	920	170	420	600	350
WP3 300	320	620	965	1265	730	1030	220	520	630	350
WP3 350	370	720	1045	1395	800	1150	270	620	670	350
WP3 400	420	820	1200	1600	920	1320	320	720	750	350
WP3 450	470	920	1265	1715	980	1430	370	820	780	350
WP3 500	520	1020	1450	1950	1120	1620	420	920	875	350
WP3 550	570	1120	1560	2110	1210	1760	470	1020	930	350
WP3 600	620	1220	1685	2285	1310	1910	520	1120	990	350

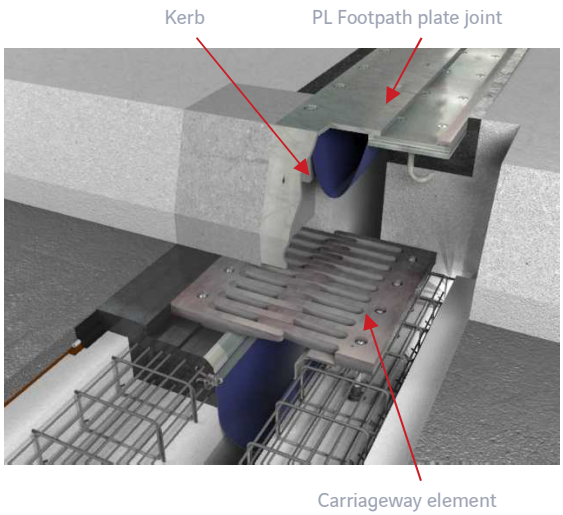
Dimensions in mm

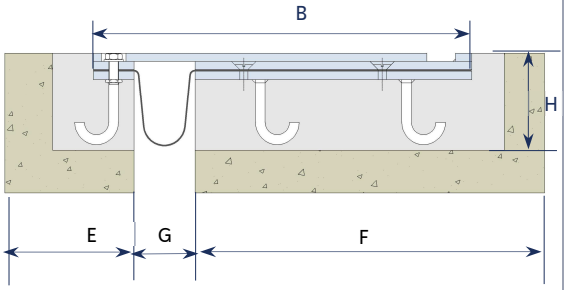
WP EXPANSION JOINT

Add-ons

To ensure overall waterproofing along the expansion joint and joint continuity on pavements (or non-traffic areas), the following add-ons are available:

- Footpath joint with or without water recovery membrane (PL footpath joint)
- Kerb cover plate





PL Footpath joint

Type	Model	B		G		E	F	H
		mini	maxi	mini	maxi			
WP60	PL60	160	220	12	72	150	250	150
WP80	PL80	180	260	12	92	150	270	150
WP100	PL110	210	310	20	130	150	290	150
WP120	PL120	230	350	30	190	150	310	150
WP160	PL160	280	440	40	270	150	350	150
WP180	PL180	300	480	50	400	150	370	150
WP200	PL200	330	530	12	72	150	390	150
WP250	PL250	380	630	12	92	150	440	150
WP300	PL300	440	740	20	130	150	490	150
WP350	PL350	490	840	30	190	150	540	150
WP400	PL400	540	940	40	270	150	590	150
WP500	PL500	640	1140	12	72	150	690	150
WP550	PL550	690	1240	12	92	150	740	150
WP600	PL600	740	1340	20	130	150	790	150
WP650	PL650	840	1440	30	190	150	840	150
WP700	PL700	940	1540	40	270	150	890	150

Dimensions in mm

References

WP800 Vila Pouca (Portugal)

WP550 connected to an orthotropic deck, Szebény (Hungary)

Rande Bridge (Spain)

Global approach

- Specification and design services
- Manufacture by carefully selected partners
- Production supervision to ensure compliance with specifications defined
- Full installation / replacement or technical support
- Inspection and maintenance
- Certifications include ISO 9001, ISO 14001, ISO 45001