

Post-construction expansion flexible joints / Retrofit joint between new and existing structures

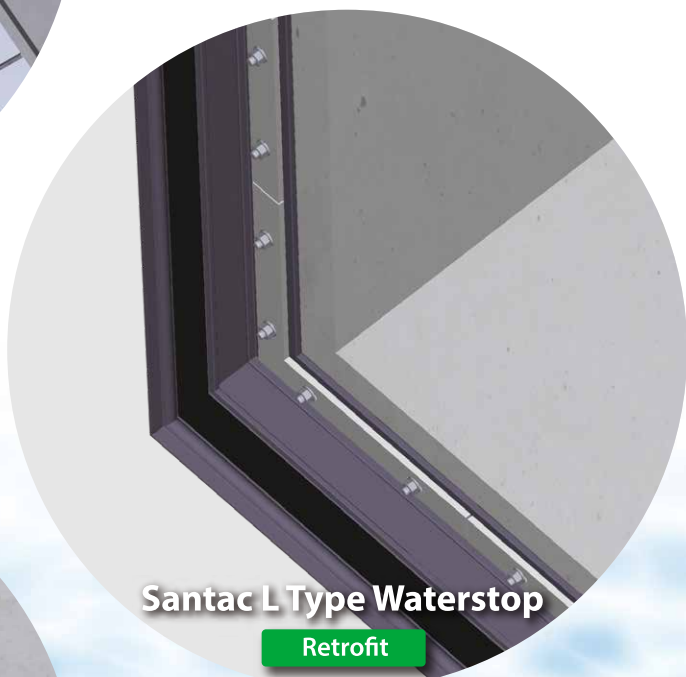
Santac rehabilitation construction series



Santac Flexible Joints

Seismic

HOK-100/HMK-100



Santac L Type Waterstop

Retrofit



Large movement

Santac Flexible Joints

Seismic

HMK-200



HAYAKAWA RUBBER CO., LTD.

<https://www.hrc.co.jp/>

Product overview

Santac Flexible Joints HOK-100/HMK-100/HMK-200

Post-construction type waterstop flexible joint systems

This is a post-construction waterstop flexible joint system for existing concrete structures where expandable rubber is secured in place to joint structure surfaces using anchor bolts and flanges.

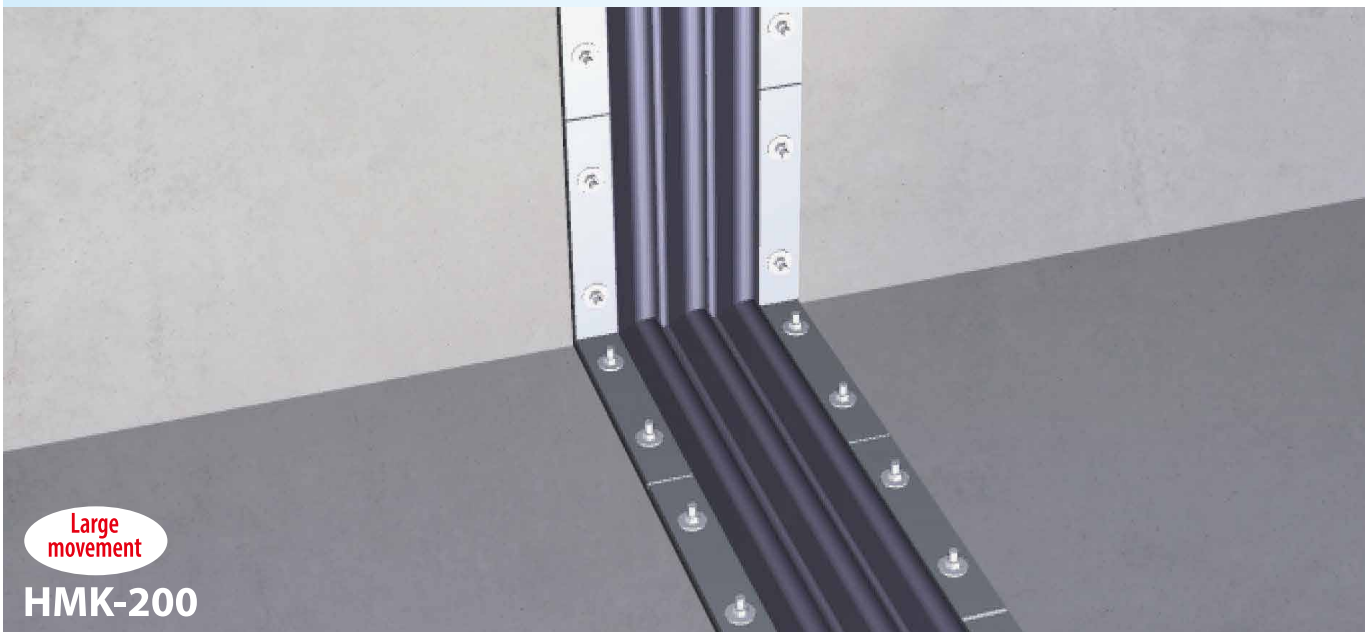
Features

1. The shape of the rubber is able to conform to displacement, and fastening the expandable rubber and Span Seal using flanges, bolts, and nuts ensures water-tightness.
2. Layering specialized nylon textile fibers as a reinforcement core material in the central areas improves water pressure resistance characteristics, and also helps make for a lighter weight product while also minimizing damage in the event that any cracks or other faults do occur in the expandable rubber surface.
3. Specialized rubber with superior weather resistance characteristics is used for the base material.

The EPDM type is a specialized material for use in waterworks facilities and conforms to the stipulations of Ministry of Health, Labour and Welfare Ordinance No. 15.

Applications

Water treatment plant structures, utility tunnels, box culverts, underground passages, waterways



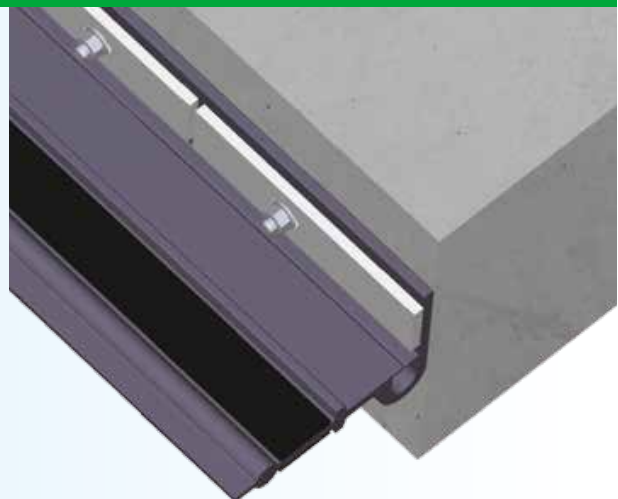
Santac L Type Waterstop

Retrofit system

We have developed a waterstop that can be installed for connection adjustment between existing concrete structures and newly constructed concrete structures.

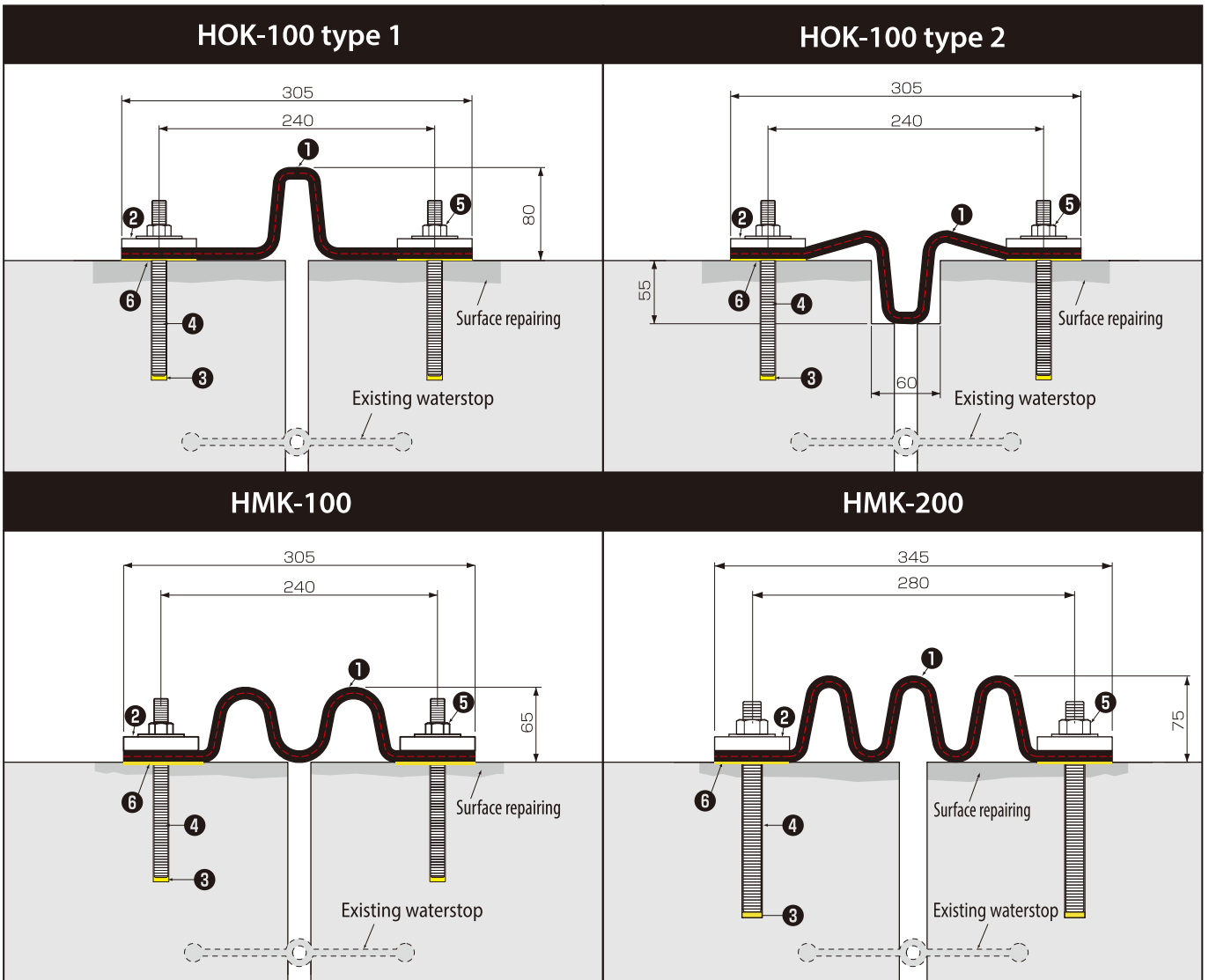
Features

- The shape of the rubber is able to conform to displacement.
- Fastening the rubber and Span Seal to existing concrete structures using presser plates and bolts ensures greater water stopping performance.
- The Span Seal attached to the L type waterstop on the new construction works as a reactive adhesive both when pouring green concrete and when hardening concrete, which gives it superior water tightening performance.
- Can be used for various corner installations.



Santac Flexible Joints / Standard specifications

Standard installation view



※ Protective sheet specifications available for each product type

Design Application Data

	HOK-100	HMK-100	HMK-200
Deflection (mm)	100	100	200
Gap (mm)	100	200	300
Allowable water pressure (MPa)	0.1	0.1	0.1

Materials List

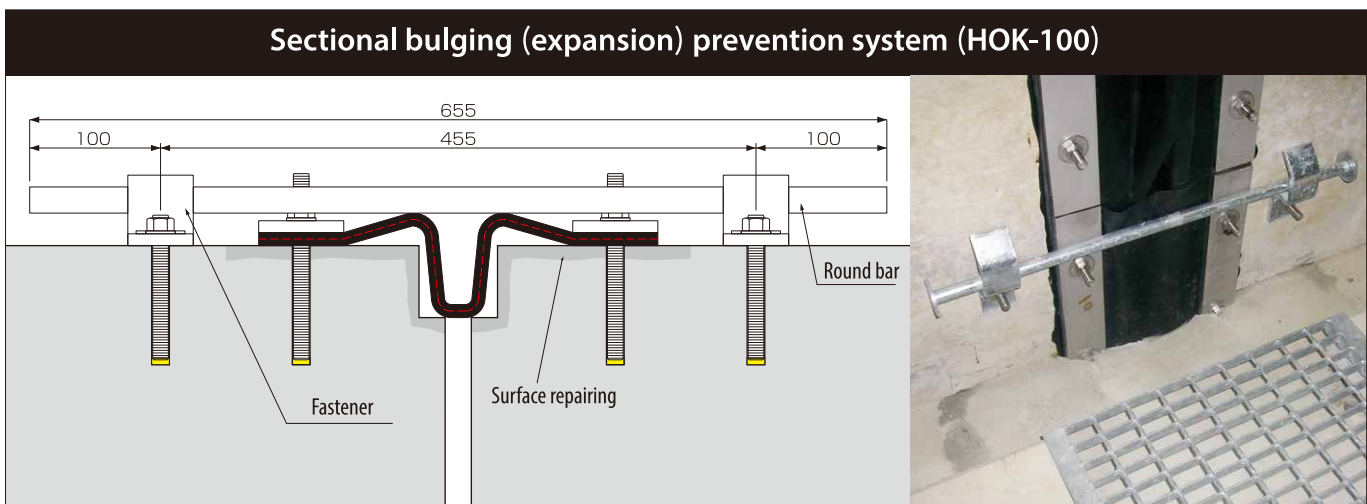
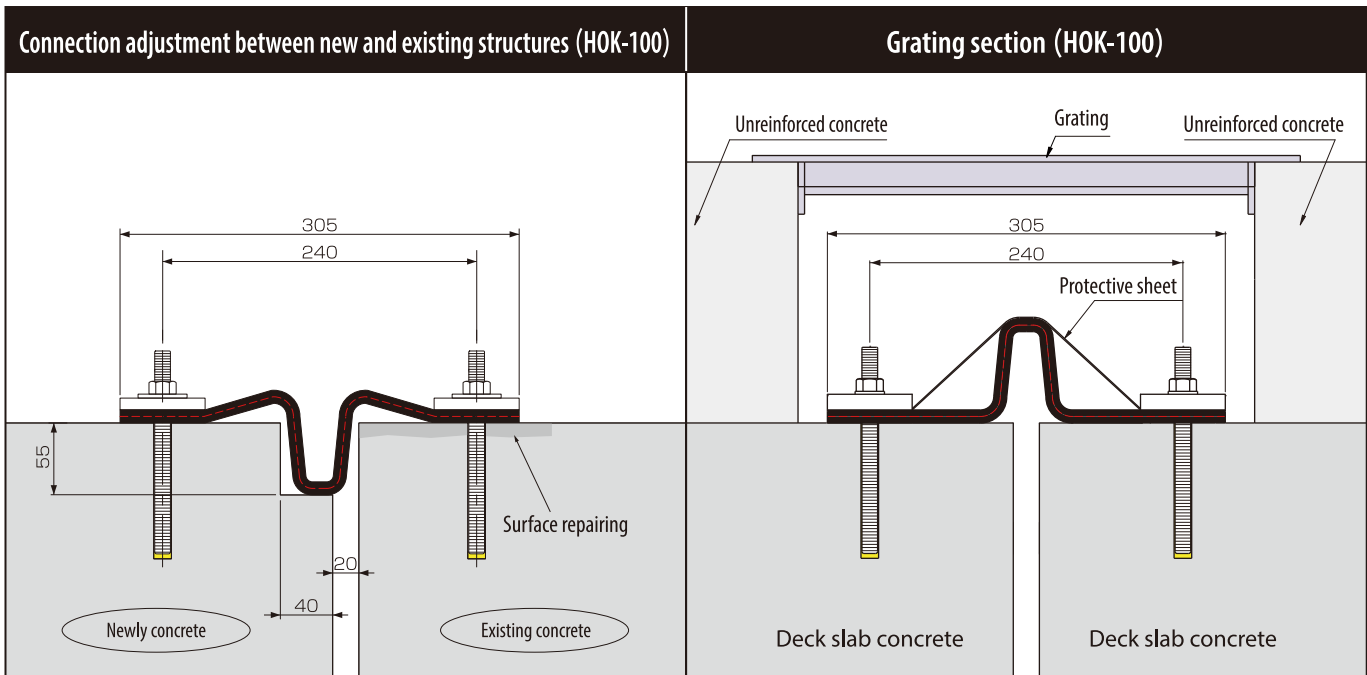
	Member	Material
①	Waterstop profile	CR type or EPDM type
②	Flange	SUS304 or SUS316
③	Chemical anchor	Resin type or inorganic type
④	Anchor bolt	SUS304 or SUS316
⑤	Nut, washer	SUS304 or SUS316
⑥	Span Seal	Butyl cohesive

Physical properties

	Property	Unit	Typical value	Test method
Initial	Hardness	—	63±5	JIS K 6253
	Tensile strength	MPa	≥ 14.7	JIS K 6251
	Deflection	%	≥ 350	JIS K 6251
After aging	Hardness change	—	≤ +10	JIS K 6257 70°C×96 hours
	Tensile strength rate of initial value	%	-20 ~ +20	
	Elongation rate of initial value	%	-30 ~ +20	
	Ozone degradation testing	—	No effect	JIS K 6259 40°C×50pphm 20% elongation 100 hours

Installation examples

Installation examples



Construction photos

■ Construction photos (HOK-100)



1. Chipping



5. Span Seal installation



2. Foundation finishing



6. Flange fastening



3. Anchor installation



7. Protective sheet installation



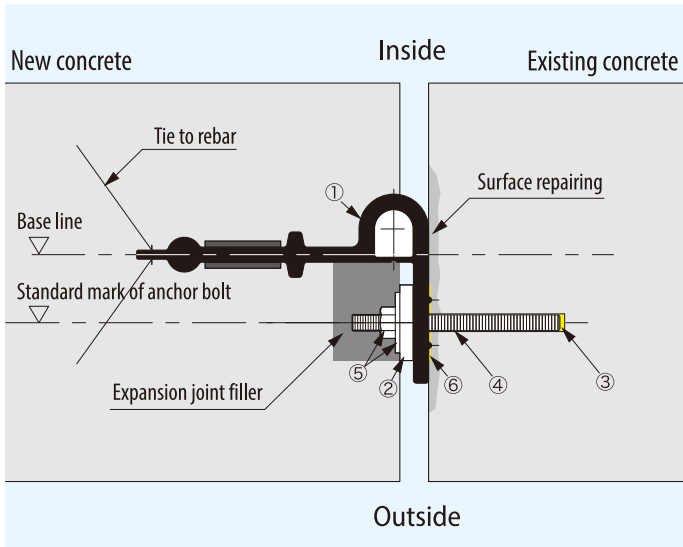
4. Santac bond PB-50 application



8. Finished condition

Santac L Type Waterstop / Standard specifications

Installation view



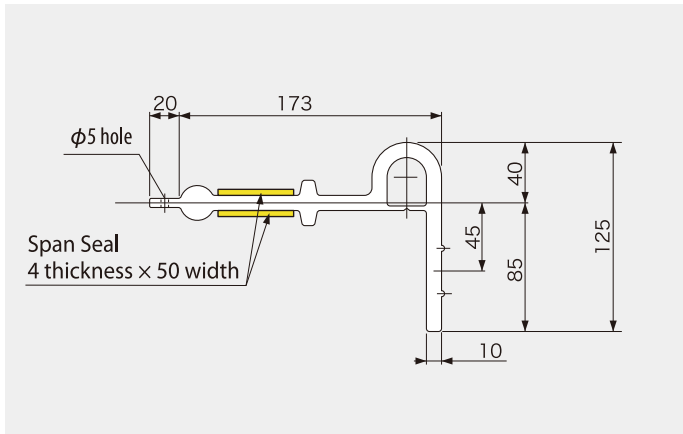
Materials list

	Member	Material
①	Waterstop profile	NR type
②	Flange	SUS304
③	Chemical anchor	Resin type or inorganic type
④	Anchor bolt	SUS304
⑤	Nut, washer	SUS304
⑥	Span Seal	Butyl cohesive

Design application data

	L type waterstop
Deflection (mm)	30
Gap (mm)	40
Allowable water pressure (MPa)	0.1

Section



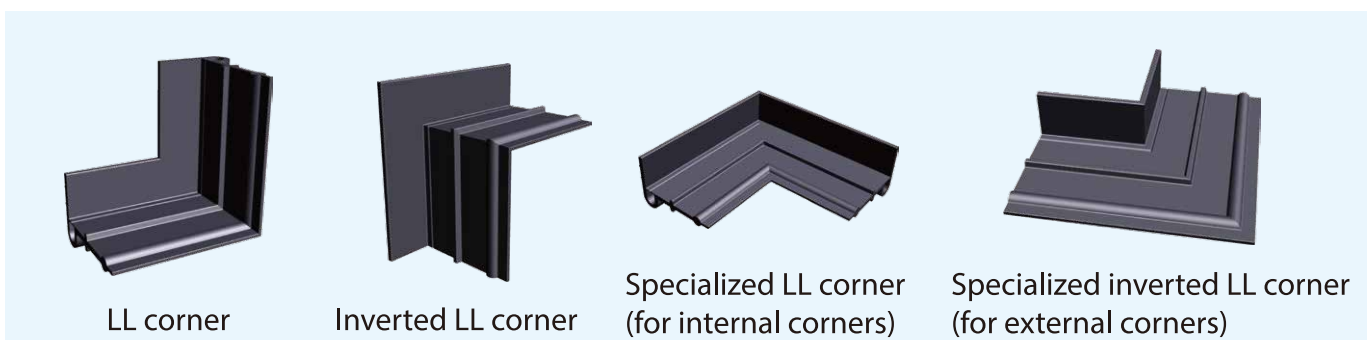
Leak proofing test



Physical properties

	Property	Unit	Typical value	Test method
Initial	Density	Mg/m ³	1.14±0.05	JIS K 6268
	Hardness	—	65±5	JIS K 6253
	Tensile strength	MPa	≥ 19.6	JIS K 6251
	Elongation	%	≥ 400	JIS K 6251
After aging	Tensile strength rate of initial value	%	≤ -20	JIS K 6257 70°C×168 hours
	Elongation rate of initial value	%	≤ -20	
	Ozone degradation testing	—	No effect	JIS K 6259 40°C×50pphm 20% elongation 48 hours

Prefabricated corners



LL corner

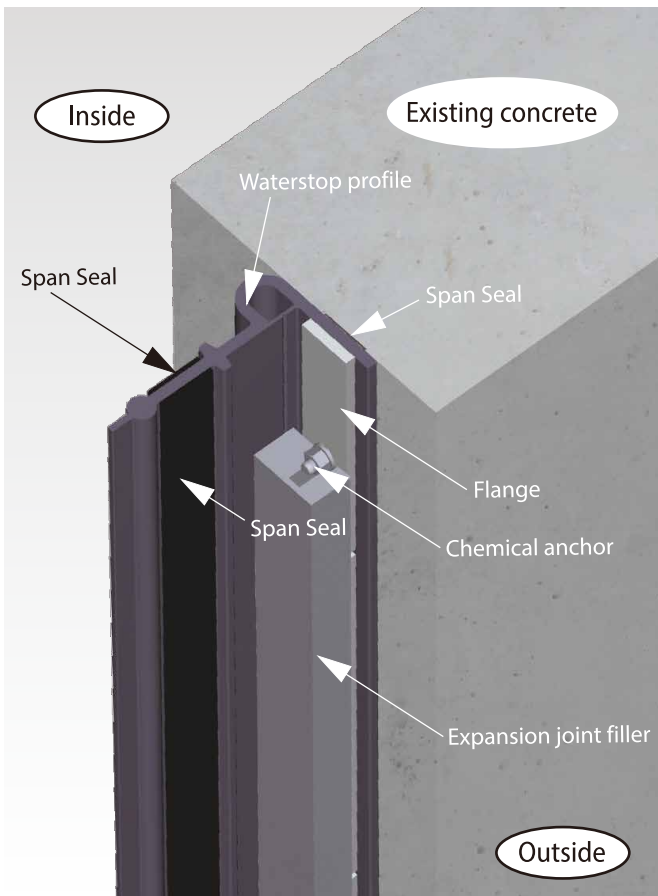
Inverted LL corner

Specialized LL corner
(for internal corners)

Specialized inverted LL corner
(for external corners)

Installation examples and construction photos

Installed illustration



Construction photos



1. Span seal installation

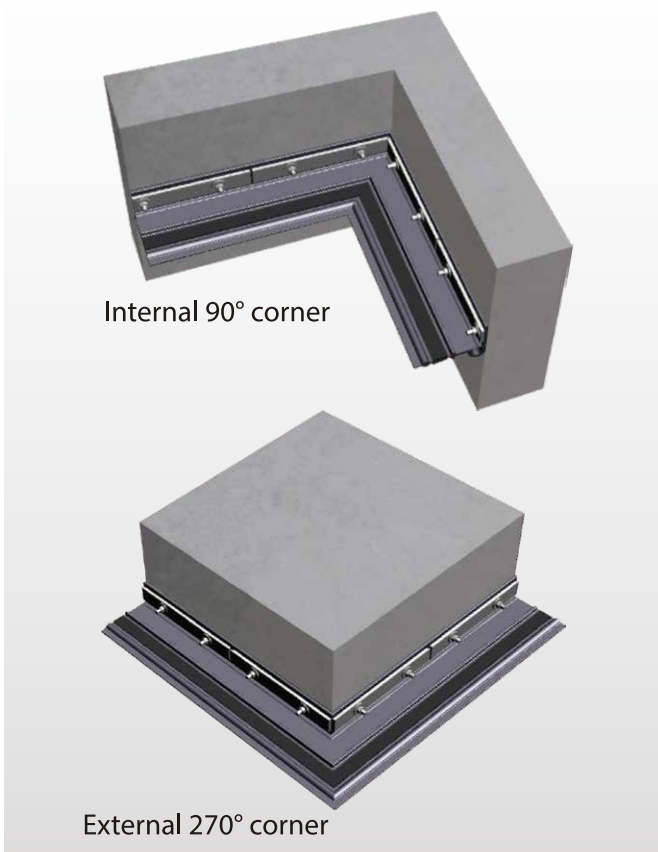


2. Flange fastening



3. Finished condition

Prefabricated corners



4. Expansion joint filler installation

URL <https://www.hrc.co.jp/>



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- Product specifications and appearance are subject to change without prior notice for product improvements and other purposes.

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