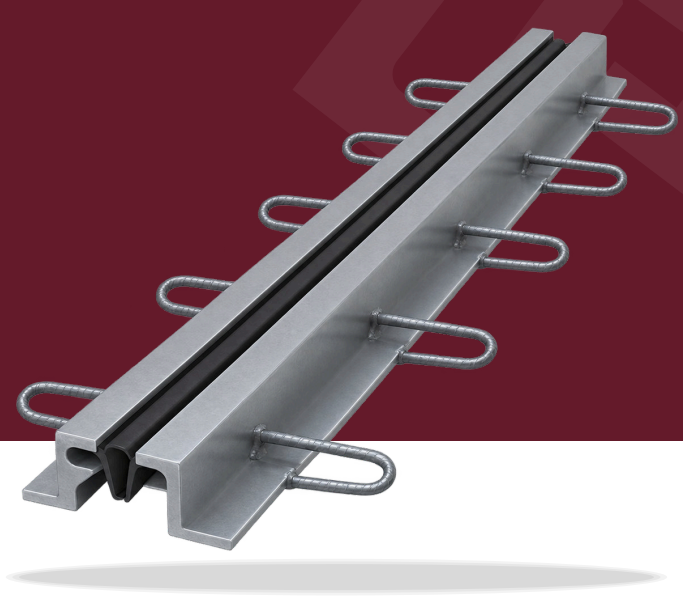
UNIJOINT CL SERIES

SECTION STEEL EXPANSION JOINT
BRIDGES | VIADUCTS | ELEVATED ROADS



Product Features

UNIJOINT CL SERIES is a single-gap section steel expansion joint for bridges, viaducts and elevated roadways. It is designed to carry traffic loads while accommodating the movement of the structure.

The system consists of two steel edge beams securely anchored into the concrete deck, with a continuous neoprene rubber seal locked into both edge beams. The seal keeps the joint watertight and gives a smooth transition for vehicles.

The seal can be replaced without removing the edge beams, giving a long service life under heavy traffic and varying temperatures.

Advantages

- **Watertight:** Continuous neoprene seal locked into both edge beams.
- **Smooth Ride:** Edge beams set flush with the road surface.
- **Heavy Duty:** Steel edge beams anchored into the deck to carry traffic loads.
- **Replaceable Seal:** Seal can be replaced without removing the edge beams.
- **Corrosion Protection:** Edge beams coated with grey epoxy zinc-rich primer, 60 microns.
- **Long Service Life:** Durable under heavy traffic and varying temperatures.

Fields of Application

Bridges & Flyovers	Highway Bridges
Viaducts	Approach Slabs
Elevated Roadways	Bridge Joint Replacement

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UNIJOINT CL SERIES

Components

No.	Part	Description	Material
1, 2	Edge Beam	DT-F steel profile 40 x 70 with claw for the seal	Q355B steel
3	Rubber Seal	W-seal, locked into both edge-beam claws	Neoprene (CR)
4	Anchor Loop	Looped anchor bar welded to the edge beam at 200	Deformed steel bar
5	Shuttering Plate	Steel plate on the gap face, closes the blockout	Steel

Edge beams protected with grey epoxy zinc-rich primer, 60 microns.

Profile Selection

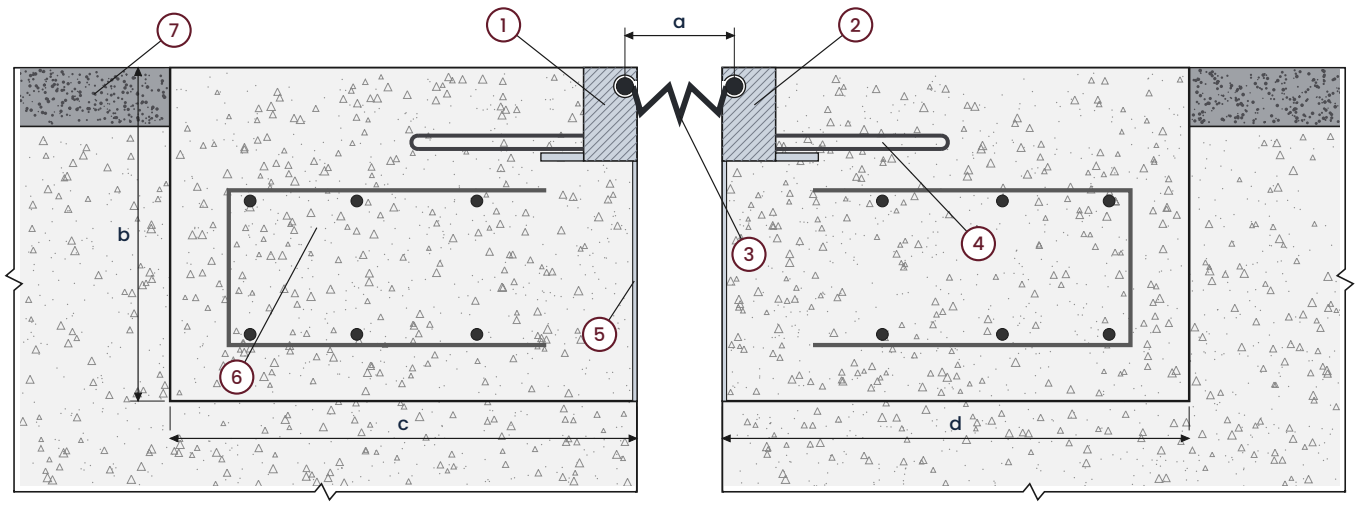
Type	Movement (mm)	a Min (mm)	a Mid (mm)	a Max (mm)	Blockout c (mm)	Blockout d (mm)	Blockout b (mm)	Length (mm)	Anchor Loop Spacing (mm)
CL 100	± 40 (80 total)	10	50	90	350	350	250	5000	200

*a = 10 fully closed, 90 fully open, 50 at installation unless the engineer directs otherwise.
Joint selection and blockout design by the engineer.*

Typical Drawing

1 UNIJOINT CL 100 – SECTION

Not to scale



LEGEND

1 Edge beam (left) 2 Edge beam (right) 3 Neoprene rubber seal 4 Anchor loop @ 200
5 Shuttering plate 6 Blockout concrete 7 Wearing course (by others)

a = seal opening b = blockout depth c, d = blockout width each side

Illustrations only – not for construction. Refer to drawing UR-JT-04.

This technical data sheet is given in good faith and does not guarantee the application work. All Unity Reliance technical data sheets & method statements are updated on a regular basis and can be subject to change without notice. It is the user's responsibility to obtain the latest version of the information required.

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Maintenance

Regular inspection and maintenance keep the joint watertight and safe over its service life. Include joint cleaning and inspection in the bridge or deck maintenance cycle.

Inspection & Maintenance Schedule

Item	Check / Action	Interval
Seal groove	Remove debris and sediment from the seal groove.	Every 3 – 6 months
Rubber seal	Check for leakage, tearing or a seal pulled out of the claw. Replace the seal immediately if found.	Every 12 months
Joint interface	Inspect the interface between the edge beams and the deck pavement for cracks or damage. Repair promptly to keep the joint watertight and the anchorage sound.	Every 12 months
Riding surface	Check surface smoothness and alignment of the edge beams. Investigate any unusual noise or vibration under traffic.	Every 12 months
Steel protection	Although factory-coated, re-coat exposed steel with zinc-rich epoxy or an equivalent anti-corrosion paint.	Every 3 – 5 years

Installation Checks

Item	Requirement
Seal opening	a = 50 mm at installation, unless the engineer directs otherwise.
Edge beam level	Top of the edge beams parallel to the road grade and level with the finished surface.
Surfacing	Adjacent concrete or asphalt finished 0 – 5 mm above the edge beams, never below.
Anchorage	Anchor loops welded to the deck reinforcement before concreting.
Rubber seal	Fitted in one continuous length, without joins.

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Installation Procedures

1 Prepare | 2 Preset Gap | 3 Set & Anchor | 4 Pour | 5 Release & Cure | 6 Seal & Pave

Installation Procedures

Step 1
PREPARATION

Check blockout depth b and widths c, d against the drawing. Break out loose concrete, clean out dust, debris and standing water, and adjust the reserved reinforcement so the joint can be lowered in without obstruction.

Step 2
GAP PRESETTING

Preset the seal opening a = 50 mm unless the engineer directs otherwise, and lock it with the temporary frames. Check the opening along the full length before lifting the joint in.

Step 3
SETTING & ANCHORING

Lower the joint into the blockout, top parallel to the road grade and level with the finished surface, held by temporary frames at max. 1.0 m.

Weld the anchor loops to the reserved reinforcement (Ø16 mm or larger) every 2 – 3 bars, one side at a time. Avoid excessive heat on the beams.

Step 4
CONCRETING

Close the gap with tight formwork so no mortar enters the seal grooves. Pour C40 – C50 high-strength, steel-fibre or epoxy concrete as specified and vibrate it fully under and around the edge beams and anchors. Clean mortar off the claws at once.

Step 5
RELEASE & CURING

Loosen the temporary frames spanning the joint after initial set, not later than 2 hours after concreting, so the joint is free to move. Grind off and touch up with zinc-rich primer.

Cure the concrete and protect the joint from site traffic with a ramp until it has gained strength.

Step 6
SEAL & PAVING

Remove the formwork from the gap and clean the claws. Push the seal bulbs into both claws in one continuous length, without joins.

Pave 0 – 5 mm above the edge beams and check the gap is uniform.

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