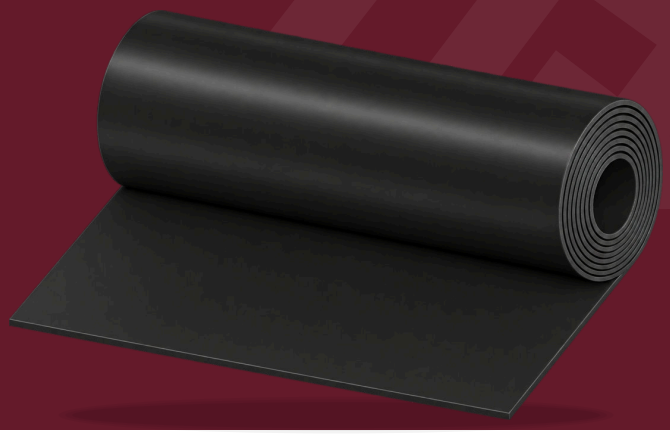
UNIJOINT RUBBER STRIP

PLAIN RUBBER STRIP / PAD
NATURAL OR NEOPRENE RUBBER



Product Features

UNIJOINT RUBBER STRIP is a plain, non-reinforced elastomeric strip or pad, moulded from a high quality natural rubber or neoprene rubber compound to the size required. Placed between precast or steel components, it absorbs compressive loading and isolates shock and vibration.

The strip is highly elastic and acts as a flexible layer between rigid building materials, allowing controlled movement between them. Its compressibility takes up variations in the contact surfaces, increasing the contact area so that loads are distributed evenly, and it forms a seal against noise, moisture, humidity and heat.

UNIJOINT RUBBER STRIP is also used as the rubber sheet membrane in bridge expansion joint blockouts, laid on the blockout floor and continuous across the joint. Type and thickness as specified by JKR or the engineer.

Advantages

- **Rugged & Durable:** Natural or neoprene rubber compound.
- **Load Bearing:** High flexibility and bearing strength under compressive loads.
- **Isolation:** Isolates and absorbs vibration, sound and shock.
- **Even Load Transfer:** Takes up surface variations and spreads the load over the contact area.
- **Made to Size:** Produced to the size ordered – no cutting on site. Widths 50 – 600 mm, thicknesses 5 – 50 mm, lengths 1 – 20 m.
- **Economical:** Lower cost than laminated elastomeric bearings.

Fields of Application

Precast Concrete Structures	Short-Span Bridges
Steel Frame Structures	Bridge Expansion Joint Membrane
Corbel & Nib Bearings	Vibration Isolation
Suspended Concrete Slabs	Other Civil Engineering Structures

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UNITY RELIANCE

UNIJOINT RUBBER STRIP

Technical Properties

Property	Test Method	Unit	Value
Hardness	BS ISO 48-2 : 2018	IRHD	60 ± 5
Tensile Strength	BS ISO 37 : 2017	MPa	> 15
Elongation at Break	BS ISO 37 : 2017	%	> 400
Compression Set (24 h / 70 °C)	BS ISO 815-1 : 2014	%	< 30
Density	BS ISO 2781 : 2018	g/cm³	1.18 ± 0.05
Ozone Resistance (25 pphm / 20% / 96 h / 30 °C)	–	–	No crack
After ageing 7 days in air at 70 °C:			
Change in Hardness	BS ISO 48-2 : 2018	IRHD	+ 10
Change in Tensile Strength	BS ISO 37 : 2017	%	– 15
Change in Elongation at Break	BS ISO 37 : 2017	%	– 20

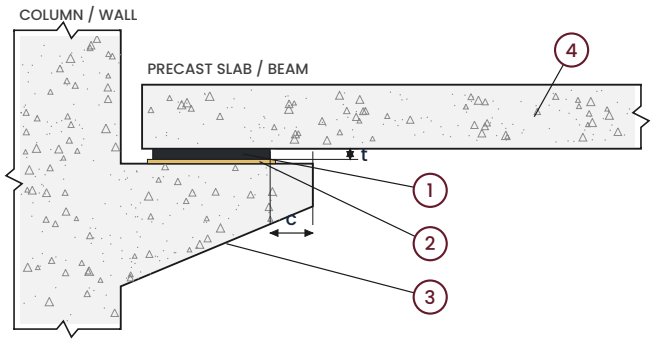
All tested and physical parameter values are subject to a 5 – 15% tolerance factor.

Physical Properties

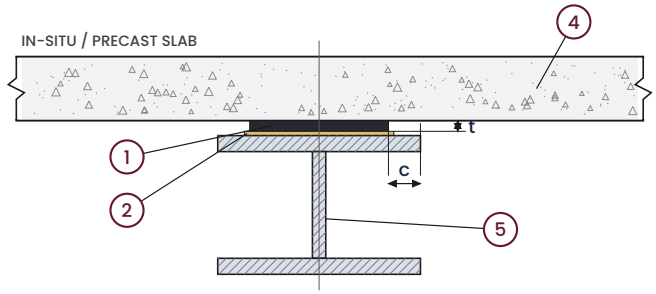
Property	Value
Material	Natural rubber / neoprene rubber
Colour	Black
Width	50 – 600 mm
Thickness	5 – 50 mm
Length	1 – 20 m
Supply	Made to the size ordered
Packing	Depends on size

Typical Drawings

1 CORBEL TO SLAB — Not to scale



2 STEEL BEAM TO SLAB — Not to scale



LEGEND

1. UNIJOINT® rubber strip / pad
2. Epoxy resin bedding
3. Concrete corbel (by others)
4. Slab / beam (by others)
5. Steel beam (by others)

t = strip thickness c = clear gap to the edge of the bearing, min. 12 mm on all sides

Illustrations only – not for construction.

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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Calculation Specification

Width (mm)	Thickness (mm)	Max. Load Capacity (kN)	Max. Shear Deflexion (mm)	Shear Stiffness (kN/mm)	Compression Stiffness (kN/mm)
100	6	250	4.0	15.0	1278
100	10	200	7.0	9.0	283
100	12	180	8.0	7.5	164
100	15	150	10.5	6.0	84
100	25	80	17.5	3.6	18
150	6	500	4.0	22.5	3791
150	10	450	7.0	13.5	861
150	12	400	8.0	11.3	503
150	15	300	10.5	9.0	259
150	20	200	14.0	6.8	110
150	25	150	17.5	5.4	56
200	6	900	4.0	30.0	7876
200	10	800	7.0	18.0	1840
200	12	700	8.0	15.0	1080
200	15	500	10.5	12.0	560
200	20	400	14.0	9.0	238
200	25	300	17.5	7.2	123
200	50	200	35.0	3.6	15
250	10	900	7.0	22.5	3247
250	12	800	8.0	18.8	1917
250	15	600	10.5	15.0	998
250	20	500	14.0	11.3	427
250	25	400	17.5	9.0	220
250	50	300	35.0	4.5	28
300	10	1300	7.0	27.0	5078
300	15	1100	10.5	18.0	1579
300	20	800	14.0	13.5	678
300	25	700	17.5	10.8	348
300	50	600	35.0	5.4	44
400	10	1500	7.0	36.0	9930
400	15	1200	10.5	24.0	3160
400	20	900	14.0	18.0	1369
400	25	800	17.5	14.4	710
400	50	700	35.0	7.2	90
500	10	2200	7.0	45.0	16171
500	15	2000	10.5	30.0	5264
500	20	1900	14.0	22.5	2300
500	25	1600	17.5	18.0	1188
500	50	1300	35.0	9.0	153

Calculated values per 1 m length of strip, shear modulus G = 0.9 N/mm². Other sizes are made to the size ordered.

IMPORTANT – LOADS FOR REFERENCE ONLY

The load capacities and stiffness values in this table are calculated for reference only and are not a design. The bearing size, thickness and load capacity for each application must be designed, checked and approved by the project's qualified engineer. Unity Reliance (M) Sdn Bhd accepts no responsibility for structural design or for the selection of the bearing based on this table.

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Installation Procedures

1 Surface Preparation | 2 Epoxy Bedding | 3 Placing | 4 Loading

Installation Procedures

Step 1
SURFACE PREPARATION

The bearing surface must be sound, level and dry. Remove all loose material, dust, laitance, oil and grease from concrete surfaces, and loose rust, oil and dirt from steel surfaces.

Mark the position of the strip / pad on the bearing surface, keeping a clear gap of at least 12 mm to the edge of the bearing on all sides.

Step 2
EPOXY BEDDING

Mix the epoxy resin thoroughly in accordance with its manufacturer's instructions.

Apply an even layer of epoxy resin over the marked area so that the strip / pad is fully bedded, with no voids under it.

Step 3
PLACING

UNIJOINT RUBBER STRIP is supplied cut to the size ordered, so no cutting is needed on site. Remove it from its packing, check the size against the order, and clean off any dirt.

Place the strip / pad on the fresh epoxy resin and press it down evenly over its full area. Check its position, line and level.

Rubber spreads sideways when compressed, so keep the clear gap of at least 12 mm around all sides of the strip / pad.

Step 4
LOADING

Allow the epoxy resin to cure fully before placing the supported member.

Lower the precast or steel member onto the strip / pad without dragging or shifting it, and check that the member bears evenly over the full strip.

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