



Kanta Rubber Pvt Ltd

HANDLING & STORAGE METHODOLOGY OF STRIP SEAL EXPANSION JOINT (Ref. STD. IRC: SP 69 – 2011)

Doc. No: SSEJ - HS

Rev. No:01

Eff. Date:01-07-2023

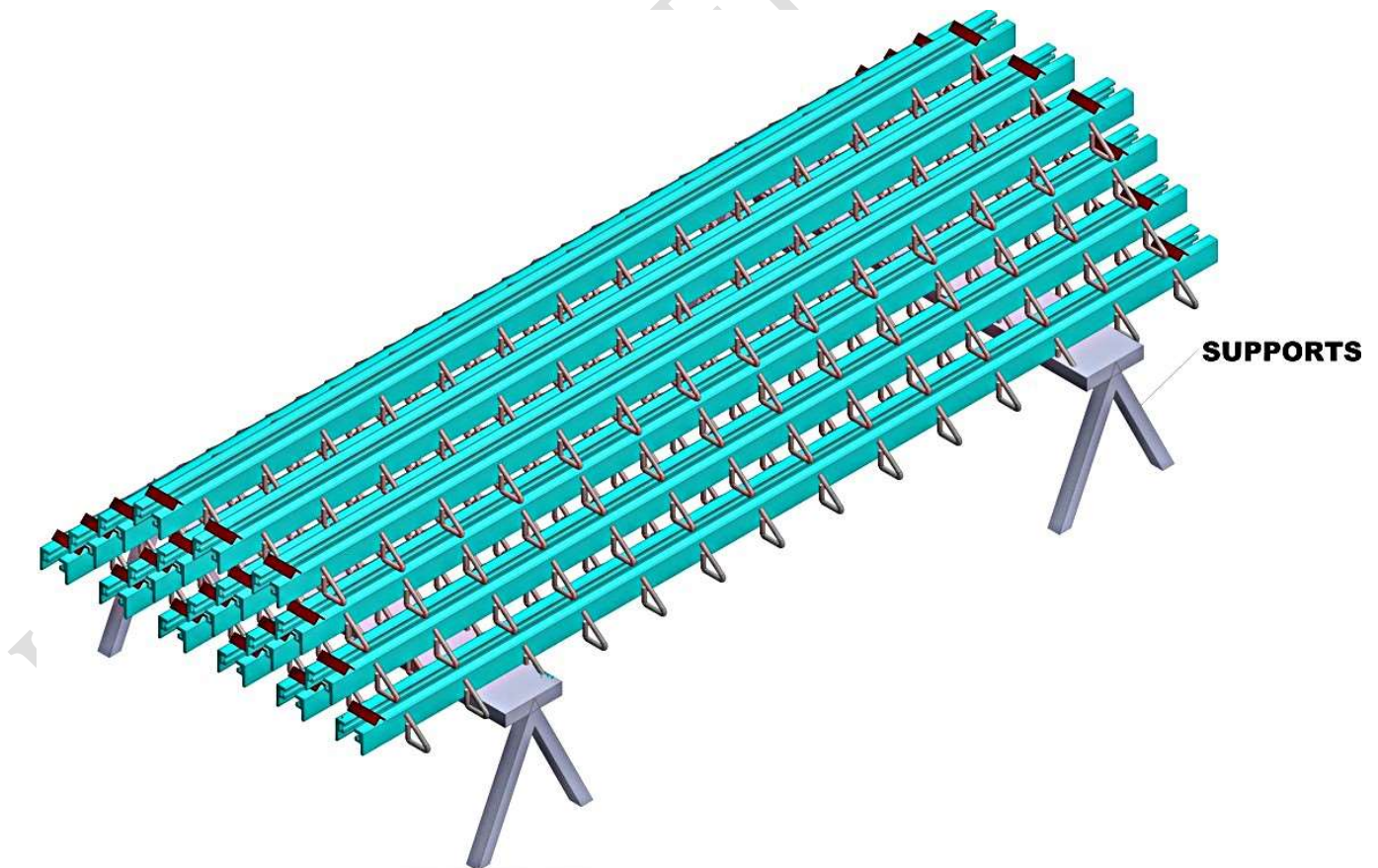
Page 1 of 2

Handling

- Expansion joint units shall be handled with proper lifting appliances such as cranes, chain pulley blocks, or forklifts.
- Dragging, dropping, or rolling the joint assembly on hard surfaces is prohibited.
- While handling, care shall be taken to avoid impact or shock loads on edge beams, anchorage, and elastomeric parts.
- Elastomeric strip seals shall be handled manually with care. Contact with oil, sharp objects should be avoided.

Storage

- Expansion joints shall be stored on a flat and levelled ground over timber/steel supports to avoid bending and distortion (as shown in below).





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Page 2 of 2

- The storage yard shall be dry, clean, and well-drained.
- Joints and accessories must be covered with protective sheets to safeguard against rain, direct sunlight, and dust.
- Elastomeric seals shall be stored in a cool, shaded, and ventilated environment away from:
 - ✓ Direct heat or sunlight
 - ✓ Ozone-producing equipment (motors, welding plants)
 - ✓ Petroleum products, solvents, or chemicals



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Page 1 of 3

Precautions Before Installation

- Expansion joint assemblies shall be brought to the deck only when installation is scheduled.
- Before fixing, ensure:
 - ✓ Joint gap corresponds to installation temperature (as per approved drawing).

Methodology

- Expansion Joints should always be installed under thorough supervision of the engineer in order to ensure the quality of installation.
- Taking the width of gap for movement of the joint into account, the dimensions of the recess in the decking shall be established in accordance with the drawings of the manufacturer.
- Verify that the reinforcement has been placed in such a way that there is no obstruction during fixing or anchoring of the expansion joint system. Any interfering reinforcement shall be adjusted only with the approval of the Engineer-in-Charge to avoid cutting or weakening structural integrity.
- The wearing coat shall be laid over the entire deck surface, including the joint recess area. Prior to laying the wearing coat, the joint recess shall be temporarily filled with well-compacted sand to maintain a uniform surface and ensure continuity during paving operations.
- After completion of the wearing coat, the portion of surfacing covering the joint recess shall be carefully removed by a suitable method such as saw cutting, ensuring clean and straight edges. The infill sand shall then be completely removed, and the recess shall be cleaned and prepared to receive the expansion joint assembly as per the approved drawings and specifications.
- The recess must suit in size and form to the geometry of the expansion joint. However, the width shall not be less than the specified value for a particular type of joint.



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Page 2 of 3

Installation Process of Elastomeric Seal in Edge Beams

Pre-Installation Checks

- Ensure that the edge beams are already installed, grouted, cured, and aligned properly.
- Verify the joint gap is as per the approved drawing and corresponds to the ambient temperature at the time of installation.
- Clean the seal grooves in the edge beams thoroughly using air compressor and wire brush.

Lubrication

- Apply a thin coat of lubricant inside the grooves of the edge beams.
 - ✓ Commonly used: Floor Coat 75 lubricant.
- Also apply a light coat on the bulb of the Elastomer strip seal to aid smooth insertion.
- Ensure no excess lubricant remains, as it may affect long-term seating.

Positioning of Seal

- Cut the elastomeric seal to the required length as per site measurement.
- Place the seal close to the groove, aligning the bulb with the groove mouth.
- Ensure correct orientation – the bulb portion faces the traffic direction as per manufacturer's drawing.

Insertion into Edge Beam Groove

- Start inserting the seal from one end of the joint.
- Push the bulb of the seal firmly into the groove until it is fully seated.
- Proceed gradually along the joint length to avoid twisting or stretching.
- Use either:
 - ✓ Manual insertion tools (steel spatula)
- Avoid using sharp objects to prevent damage to the seal.



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Rev. No:01

Eff. Date:01-07-2023

Page 3 of 3

Locking and Finishing

- Check that the seal is uniformly locked throughout the full length.
- Ensure no twisting, bulging, or partial seating of the bulb.
- Trim any excess portion neatly.

Final Inspection

- Visually check the continuous seating of the seal in both grooves.
- Verify there are no gaps between seal and edge beam.



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ROUTINE MAINTENANCE & INSPECTION OF STRIP SEAL EXPANSION JOINT (Ref. STD. IRC: SP 69 - 2011)

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Page 1 of 1

- Frequency: At least twice a year (pre-monsoon & post-monsoon), and after heavy traffic loads or earthquakes.
- It is necessary that Gaps are maintained properly and surface treatment given on adjacent areas should exclude laying of wearing coat, i.e. covering of gap should be prevented.
- The inspection shall be preceded by careful cleaning of the expansion Joint to permit free movement. Remove incompressible clogging of the joint due to debris accumulation.
- All inaccessible accumulated foreign objects shall be cleaned either by pressurized air or by water jet. It is to be noted that high water pressure (above 100 bar) or heated water (above 25°C) are to be avoided.
- The bridge structure adjacent to the joint shall be examined for the following common defects, which may lead to further damage of the joints.
 - ✓ Spalled Concrete
 - ✓ Broken off edges
 - ✓ Rust Spot on the concrete surface
 - ✓ Exposed reinforcement.
- The Concrete adjacent to Expansion Joint must be free of damages in order to ensure smooth passage of the traffic without heavy shocks / impacts. This increases the life Span of the Expansion Joint considerably.
