



Kanta Rubber Pvt Ltd

HANDLING & STORAGE METHODOLOGY OF ELASTOMERIC BRIDGE BEARINGS

(Ref. STD. IRC:83-2018 (Part-II))

Doc. No: EB - HS

Rev. No:01

Eff. Date:01-07-2023

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Handling

- Bearings shall be lifted manually or with a suitable equipment depending on weight; Avoid dropping, dragging, or rolling on rough or even smooth surfaces. Bearings must be carefully handled and placed gently on a clean and smooth surface.
- Use nylon belts, rubber slings for lifting — avoid chains, wire ropes, or sharp knives.
- Do not apply impact or shock loads during handling.
- Avoid contact with oils, petroleum products, or solvents as these may damage elastomer properties.
- Bearings should not be stacked more than 1.5 m height to prevent distortion.

Storage

- Bearings shall be stored on a flat surface, level and clean concrete / wooden platform. As shown in fig.(ii)

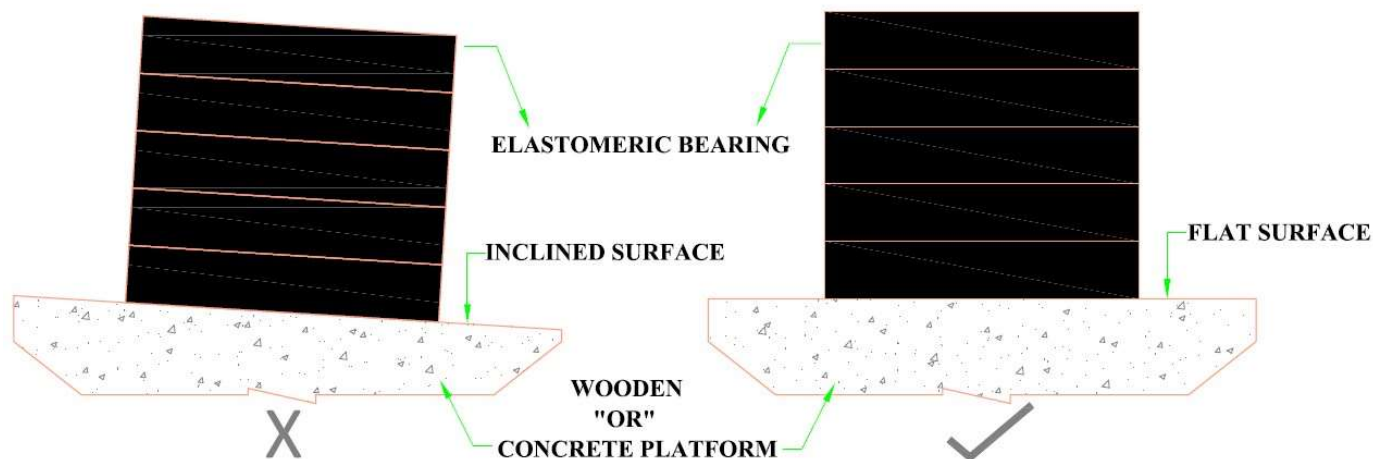


Fig (i)

Fig (ii)

Fig (i) Indicates inclined Surface

&

Fig(ii) Indicates Flat Surface



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- Do not place Bearings directly on bare soil or uneven surfaces.
- Bearings shall be stored at room temperature in a shaded, dry, and well – ventilated area protected from direct sunlight, rain, and dust.
- Elastomeric bearings shall not be stored nearby:
 - ✓ Heat sources
 - ✓ Ozone-producing equipment (electrical motors, welding machine)
 - ✓ Chemicals, oils or solvents
- For long-term storage (more than 6 months), rotate or reposition bearings periodically.



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1. Before placing the bearing in its position, the interface surface is to be cleaned completely to avoid any unwanted load on bearings due to level difference.
2. It shall be ensured that the bottoms of Girders to be received on the bearings are plane at the location of these bearings and care shall be taken that the bearings are not displaced while placing the girder.
3. Pedestal shall be casted to a higher level than required and shall be grinded down electro mechanically to required level.

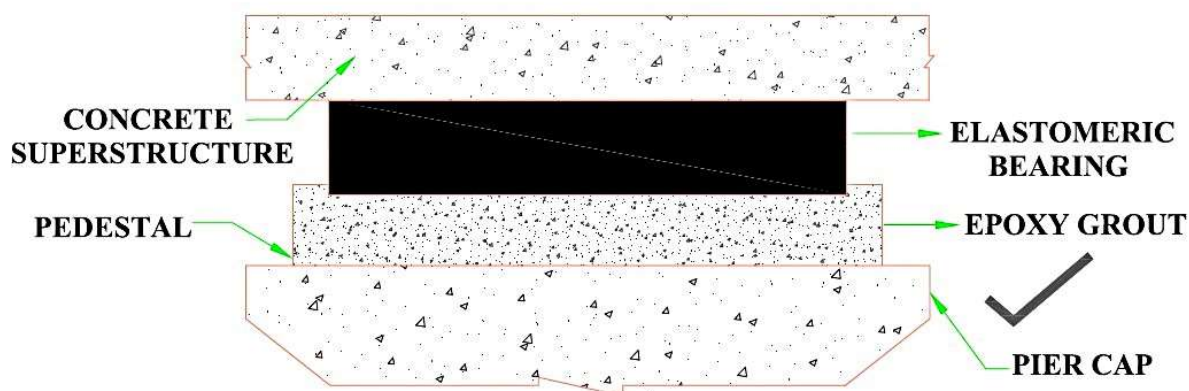


Fig.(i)

4. For precast concrete or steel superstructure elements, fixing of bearing to them may be done by application of epoxy resin adhesive to interface, after specified surface preparation.
5. The specification for adhesive material, workmanship and control shall be approved by the engineer. Care shall be taken to guard against faulty application and consequent behavior of the adhesive layer as a lubricant. The bonding by the adhesive shall be deemed effective only as a device for installation and shall not be deemed to secure bearing against displacement for purpose of design.
6. For cast-in-situ concrete construction of the superstructure, where bearings are installed prior to concreting, the formwork provided around the bearings shall be sufficiently soft to allow easy removal. The formwork shall fit properly around the bearings to prevent any leakage of mortar or grout. Any mortar or concrete splatter contaminating the bearings during concreting shall be completely cleaned and removed before it sets.



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7. When the deck is sloping laterally or longitudinally, it is generally very slight and is compensated by the deformation of the bearing itself. If this is not the case, it is advisable to establish a horizontal bearing surface, possibly by varying the thickness of the plate placed between the upper bearing face and the lower face of the beam as shown in Fig.(iii).

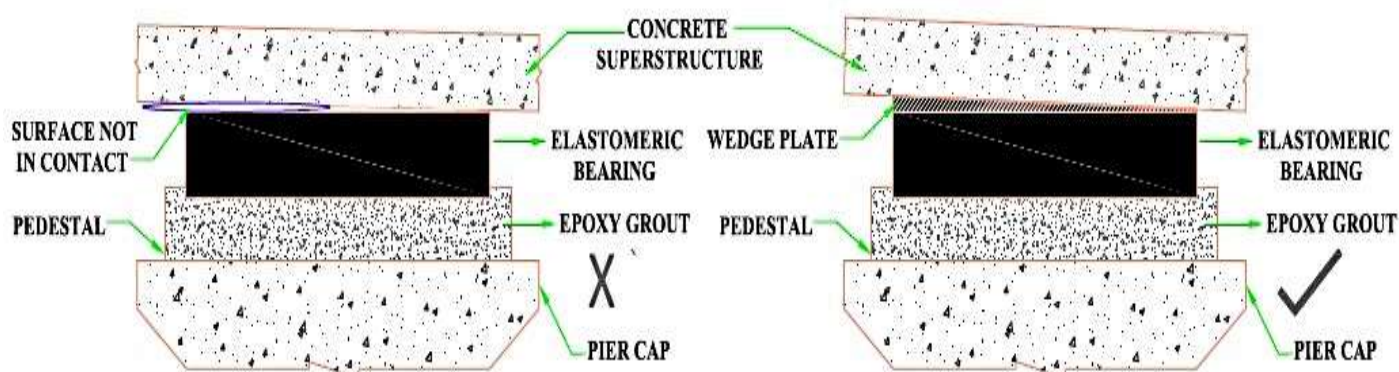


Fig.(ii)

Fig.(iii)

8. The top and bottom bearing surfaces shall be in full contact with the plinth (bottom supporting surface) and the soffit (top supporting surface).
9. All the bearings placed / Installed along the single line of Supports should be of identical dimensions.
10. It shall be ensured that the bearings are set to the level and exact position as indicated in drawings so as to have full and even bearing on the seats. This shall be checked with spirit level in both directions.
11. Minor undulations if any shall be filled using Epoxy grout and bearing will be placed before the Epoxy grout sets, but after cooling.
12. Any minor discrepancies in level of the pedestal shall be made good by Non-Shrink Epoxy Grout. In case of level discrepancy more than allowable limit, defects should be rectified by recasting of pedestal to correct size and level using concrete and steel reinforcement suitably.
13. After completing the Pre-Stressing and placing the complete span on temporary support, site executives shall verify the support condition ensuring that all bearings are in full contact with temporary support and down stands. Temporary support shall be of equal size and height more than bearing thickness with true horizontal surface at top and bottom.



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After verifying correctness of all levels in span viz; pedestal top levels, segment soffit and top levels entire span shall be placed on suitable jacks of required capacity. Temporary support there after shall be carefully replaced with approved bearings in the recess provided in the pedestal and the span is lowered carefully to rest on bearings.

(Pre-Stressing of the span shall not be carried out after installation of bearings.)

14. The span finally placed shall be checked for correctness of all parameters so that bearing placed in position remain fully in contact with Top and bottom surface with superstructure and substructure in truly horizontal level.

15. **After installation, bearing and their surrounding areas shall be left clean.**



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ROUTINE MAINTENANCE OF ELASTOMERIC BRIDGE BEARINGS (Ref. STD. IRC:83-2018 (Part-II))

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1. The structure should be designed and detailed in such a way that the bearings are easily accessible after installation for inspection and maintenance. Arrangements for insertion of jacks to lift the bridge deck shall be made in detailing of structure.
2. The bearings shall be subjected to planned maintenance care.
3. The exposed bearing surface shall be maintained clean and free from contamination with grease, oil or any foreign materials.
4. Annual routine maintenance inspection or special maintenance inspection of all bearings shall be conducted.
