

Alignment of bearings

No. 2.09

Scope

This Guidance Note gives advice on making clear the requirements for the alignment of bearings.

Background

Bearings are normally attached to the superstructure and to the substructure using bolted connections. The position and alignment of the bolted connection to the superstructure and the foundation or holding down bolts to the substructure need to be clearly defined. In EN 1337-1, clause 7.3.2 requires that "In addition, all bearings other than elastomeric bearings shall be marked with ... the direction of installation."

If information is not provided in a clear and consistent manner as part of the contract documentation at an early stage, there is a risk of delay in determining the attachment details at the fabrication stage and to confusion in setting out the fixings in the substructure (possibly leading to re-work at a late stage).

This note is intended to draw attention to the need to convey the information at an early stage and to show how the information may be presented.

Showing orientation on the drawings

The direction of installation could be shown in the layout diagram on the design drawings by half-shading the symbols used for the bearings, as shown in Figure 1.

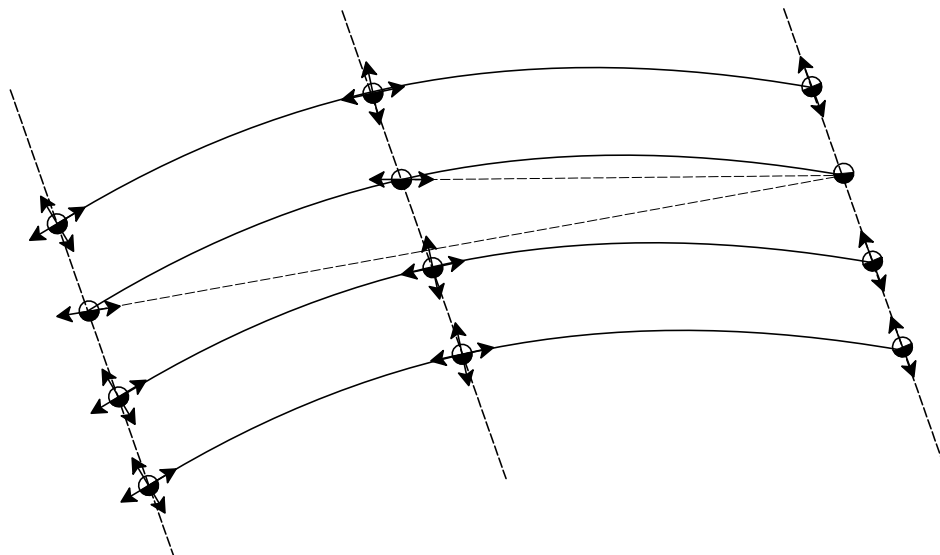


Figure 1 Indicating bearing alignment on drawings

In this example the guided pot bearings are to be aligned in order to achieve movements (due to expansion and contraction) in a radial direction from the fixed bearing at the right hand end. Other articulation arrangements could have been chosen (see GN1.04 for guidance on selection of articulation arrangements).

Showing orientation on bearing drawings

The same orientation symbols could be shown on the bearing manufacturer's drawing. This will facilitate the determination of the details of the tapered bearing plates.

The symbols could also be marked on the bearing itself but that would not be essential.

An example of the marking system using the modified symbol for pot bearings is shown in Figure 2 and Figure 3.

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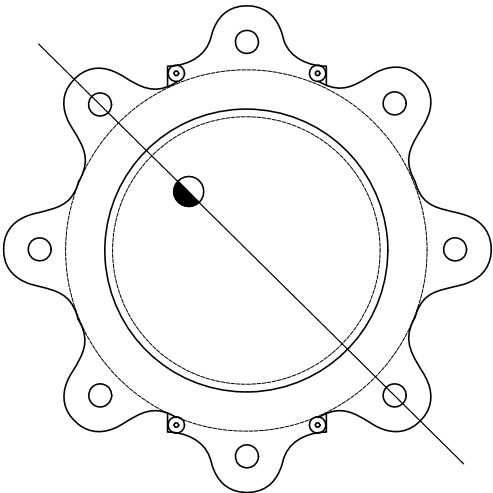


Figure 2 Example of marking a restraint bearing

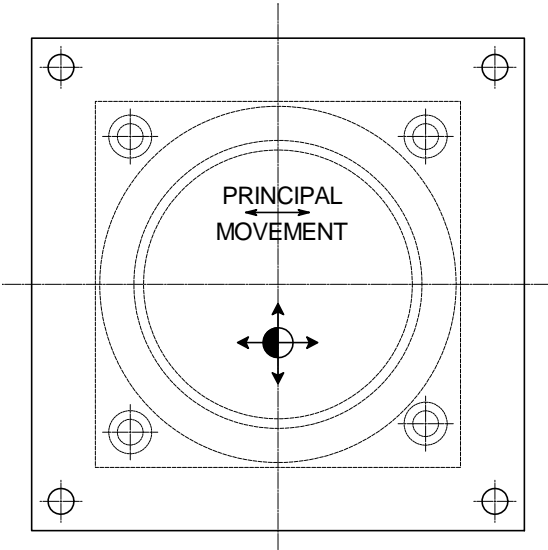


Figure 3 Example of marking a multi-directional sliding bearing

References

- 1. EN 1337-1:2000, Structural bearings