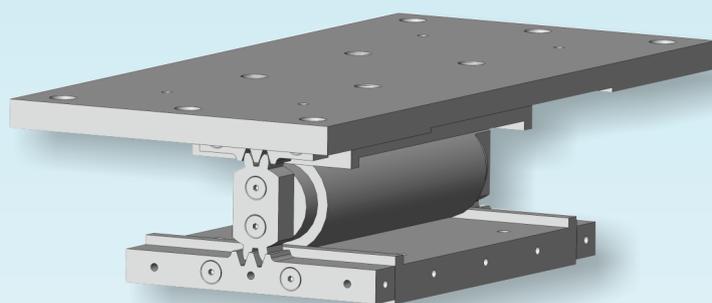


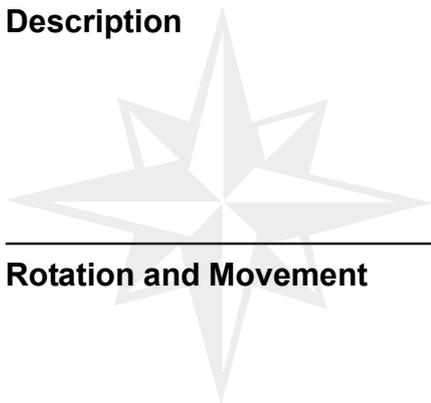


J

Roller Bearings



Description



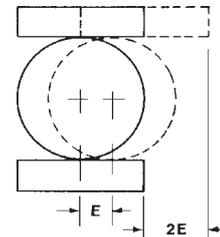
The J Series of structural bearings is designed to accommodate the very low friction requirements of some structures. Very low friction resistance is achieved by the use of hard high tensile corrosion resistant faced roller and plate elements. These elements are assembled to low carbon steel plates which distribute the bearing loads to the adjacent structure. The use of corrosion resistant rollers and plates makes the use of grease boxes unnecessary for the prevention of corrosion - dust shields are available if required.

Rotation and Movement

Rotation of $\pm 2^\circ$ about the roller axis is permissible. The roller is maintained in position relative to the roller plates during assembly and installation by means of machined location elements. The type of element depends on the required roller movement.

As with all roller bearings of this type, horizontal translation produces eccentricity of load relative to the adjacent structures. The load eccentricity is equal to half the movement of the superstructure relative to a fixed point.

See Fig. 2 E = Eccentricity of roller
 2E = Movement of structure



Applied Loads

Experience has shown that the transverse load capacity of the bearing must not be utilized to maintain the alignment of curved structures or to resist loadings due to crossfall. Ekspan can provide special bearings for these conditions.

Attachment

Various attachment methods are illustrated on the page opposite on typical roller details. Bearings can be supplied with any combination of the methods shown for the top and base plates. Please contact us if you require a bearing design to accommodate your needs. We can provide you with dimensional information and outline drawings to assist your specification.

Technical Data

Type of Roller Bearing	Rb	Rc
Transition Hardness	≥ 300 HV 1	≥ 300 HV 1
Surface Hardness	490 to 620 HV 20	500 to 650 HV 20
Standard Deviation of the Surface Hardness	≤ 25 HV 20	≤ 25 HV 20

Type of Roller Bearing	Rb		Rc	
Coefficient of rolling friction	0.015	0.010	0.015	0.010
Allowable Hertzian Pressure	1850	1600	2000	1700

Type of Roller Bearing	Rb		Rc
Material according to section 2.1.1.1 (or equivalent material)	Cast Steel	Hot-Rolled Structural Steel	Heat Treatable Steel Cast Steel
Load Case H	180	210	210
Load Case Hz	200	240	240

Support and Installation



The structural members adjacent to the bearing must provide a uniform support to the bearing top and base plates respectively.

The bearings are supplied with the elements securely clamped together, correctly aligned and locked in position by brackets. This condition must be maintained until the bearings are fully installed, after which the brackets must be removed. Bearings are normally supplied in the mid-position.

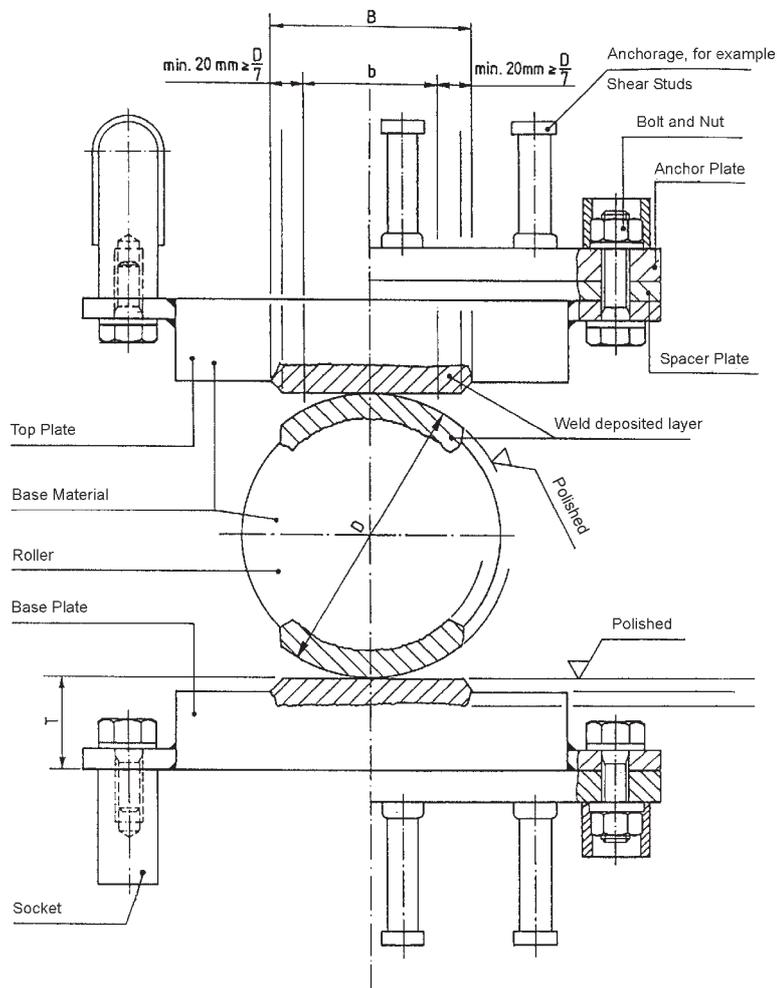
The bearings must be installed with the axis of the roller perpendicular to the direction of the resultant movement. The axes of two or more rollers in a line must be parallel to one another, and should preferably be on a common axis.

On cast in-situ structures, it is preferable that the bearings are positioned and fully grouted on to their seatings before the formwork is assembled and the superstructure cast. On structures with separate pre-fabricated desk components, it is preferable that the bearings be attached to these components first, then lowered on to the seating, levelled and finally grouted in position.

The weight of the structure must be supported outside the bearing until the grout has cured sufficiently to provide uniform support to the bearing.

Other methods of installation are acceptable to suit construction methods, provided that the correct alignment of the bearings is maintained in the completed structure, and the bearings are uniformly supported before the structural loads are applied.

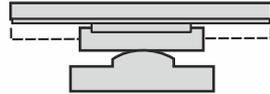
Typical Roller Details (cross section) - Type Rb and Rc



BRIDGE & INDUSTRIAL BEARINGS



B Series Sliding Bearings
with elastomer base



D Series Line Rocker Bearings



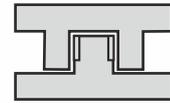
EA Series Sliding Bearings



E Series Anticlastic Bearings



Elastomeric Bearings



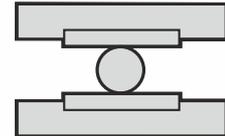
F & FE Series
Pin and Guide Bearings



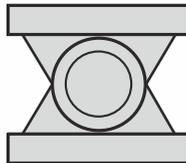
G & GE Series
Spherical Bearings



K & KE Series Pot Bearings



J Series Roller Bearings



Link Bearings

EXPANSION & SEAL TYPE JOINTS



Multi Element Expansion Joints



Roller Shutter Expansion Joints



Finger Type Expansion Joints



TF Expansion Joints



T-Mat Expansion Joints



TF B-75 and TF B-7
Expansion Joints



Single Element Expansion Joints



EC Seal Expansion Joints



ES Seal Expansion Joints



EW Seal Expansion Joints

A world wide service offering effective solutions in:-
Inspection • Design • Manufacture • Supply
Installation • Commissioning • Planned Maintenance

Ekspan warrants that products described in this brochure are free from defects in workmanship and material but unless expressly agreed in writing Ekspan gives no warranty that these products are suitable for any particular purpose or for use under any specific conditions notwithstanding that such purpose would appear to be covered by this publication. Ekspan accepts no liability for any loss, damage or expense whatsoever arising directly or indirectly from the use of their products or recommendations. All business undertaken by Ekspan is subject to their standard conditions of sale, copies of which are available upon request. Ekspan products are subject to continual development and Ekspan reserves the right to make changes in the specification and design of their products without prior notice.

Issue 02 - March 2016

E&OE



Certificate No.: LRO 4008849

Ekspan Limited, Compass Works, 410 Brightside Lane, Sheffield S9 2SP, United Kingdom

Tel: +44 (0)114 2611126 • Fax: +44 (0)114 2611165

E-mail: enquiry@ekspan.co.uk • Website: www.ekspan.com



Certificate No.: LRO 4008850