



Rail wheel bearing SHN 3302/01 // DIN 15090
(rail wheels with angular bearing housing or according to DIN 15090)

Page 1 of 1
Issue 11/2009

Operation and Installation Instructions

Materials used:

Axles/shafts: 1.7227/42 CRMOS 4 V or as specified in order
Angular bearing housing: 1.0038/S235JRG2 (RST 37-2)

Finish/coating/rust removal:

Steel parts: Steel rust removal acc. to SA 2.5 as per DIN 55928 part 4.

Painting according to order specification.

The contact surfaces of the wheel flanges and the shaft end are preserved with Tectyl 506-EH or rust proofing oil. This coat must be removed before commissioning these parts. This can be done with benzine or paraffin.

Description/installation/maintenance:

- The rail wheel bearings are intended for installation in hoisting equipment.
- The installer of the complete system is responsible for complying with all applicable provisions (device safety act, machine directive, operating safety regulations, etc.).
- The wheel is interference fitted on the shaft/axle on the basis of DIN 15090 (H7/v6). The roller bearing is effected by spherical roller bearings to DIN 635.
- The tolerances of VDI 3571 (manufacturer tolerances for bridge cranes) must be observed.
- The roller bearings in the angular bearing housing / slit housing should be filled with suitable universal grease. After installation of the crane wheel bearing supply above lubricant or an alternative brand at the button-head lubrication nipples until lubricant emerges from the gap between the bearing cover and the shaft/axle. This ensures best lubrication and sealing of the bearing. Relubricate as needed by load and dust (gap seal).
- Entry of dust and water in the roller bearing is prevented by a gap seal or a shaft seal according to DIN 3760 A. If the environment is heavily dust-laden, the sealed gap should be relubricated regularly at the lubricating nipple. Make sure that no lubricant contaminates the contact surface of rail and wheel because this would cause wheel skidding (except wheel flanges).

Especially for SHN 3302/02

- The angular bearing housing is bolted to be base.
- The recess in the outer surface of the flange of the wheel body can be used as reference mark for aligning, surveying.
- The wheels must be installed in such a way that the resultant of the forces affecting the runner wheel always acts towards the bottom part of the bearing (the fastening bolts of the bearing plate must not be exposed to tension except due to the deadweight of the wheels).
- Use shims (not in the scope of delivery) for alignment. The contact faces of the corner bearings must make full and even contact to ensure that the wheel force is transmitted into the base structure.
- The roller bearings are of self-aligning roller bearing type. The bearing is adjusted in X-arrangement and has 0.5mm end clearance at both ends. The clearance compensates longitudinal axial tolerance and heat expansion. Therefore, the tolerances of angular bearing housing space are important and should be observed.

Recommended lubricants (normal conditions):

- CERITOL HIGH – LUB 2,
- BEACON 2,
- MARSON L2A,
- Lithium-saponified grease NLG12 DIN 51818/K2K-30 DIN 51502,

Supplier:

CERITOLWERK
ESSO
FINA
general

Straße der Freiheit 1
D-07318 Saalfeld/Saale

Saalfelder Hebezeugbau GmbH
Unternehmensbereich Komponenten

Fax (03671)441343
Telefon (03671)441347

Calculation/design

All required verifications should be provided by the user as required by the technical rules (see list of norms below – not exhaustive)

DIN 743-1, edition: 2000-10

Calculation of load capacity of shafts and axles – part 1: Introduction, general basis

DIN 743-2, edition: 2000-10

Calculation of load capacity of shafts and axles - part 2: Theoretical stress concentration factors and fatigue notch factors

DIN 743-3, edition: 2000-10

Calculation of load capacity of shafts and axles - part 3: Strength of materials

DIN 6892, edition: 1998-11

Drive-type fastenings without taper action – parallel keys – calculation and design

DIN 7190, edition: 2001-02

Press-fitted assemblies – basis for calculation and design rules

DIN 15070, edition: 1977-12

Cranes; basis of calculation for runner wheels

DIN 15071, edition: 1977-12

Cranes; calculation of the bearing stress of runner wheels

DIN 15072, edition: 1977-12

Cranes; tread patterns of rail wheels and assignment of crane rails to the rail wheel diameter

DIN 15090, edition: 1982-07

Cranes; driven wheels and travelling wheels, configuration

DIN ISO 281, issue: 1993-01

Rolling bearings; Dynamic load ratings and rating life; Identical with ISO 281:1990