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Technical Pre-qualifying Criteria for “Cylindrical Roller and Ball Bearings”

Ref.: TME/PQC

Date: 24/09/2020

The pre-qualification criteria for “Cylindrical Roller and Ball Bearings” are as under:-

- 1) Supplier to confirm that bearing type NU214 ECM/C4 (riveted/rivetless & insulated cylindrical roller bearing) & 6311 M/C4 (riveted & insulated ball bearing) of SKF designation or equivalent nomenclature of other bearing manufacturer shall be supplied.
- 2) Supplier to confirm that the offered bearing shall be in the regular manufacturing range of the vendor.
- 3) Supplier to furnish drawings of the offered bearing. The technical data sheet of the same shall also be furnished, as per requirements mentioned in enclosed annexure-A.
- 4) Supplier to confirm that the offered bearing manufactured by vendor is for traction application.
- 5) Supplier should have experience of supplying at least 32 sets (32 nos. each) of cylindrical roller & ball bearings mentioned above in sl. no. 1 or of higher size in the last 2 years for traction application to any traction machine manufacturers or Indian Railways or other Railways.
Vendor to furnish previous PO copies (price details may be hidden, if required) and supply proof (invoice) in support of the same.
- 6) Supplier to confirm that bearings supplied as per sl. no. 5 above must have completed at least 18 months of successful service/field trial in Indian Railways or other Railways application.
- 7) Supplier to give confirmation that the bearings shall be manufactured at the same manufacturing plant for which vendor is submitting the experience details as per sl. no. 5.
- 8) Supplier should be the manufacturer of bearings and not trader.
- 9) Supplier to confirm that vendor or any rolling contact bearing of its make is not banned by RDSO Lucknow or any entity of Indian Railways for supply of bearing in traction application.
- 10) Supplier should have technical support team & office in India for providing technical assistance to bearing issues.
- 11) Supplier having prior experience & interest in registration at BHEL for supply of Cylindrical roller & Ball bearings may further contact BHEL for discussion & other formalities.

DRAWINGS AND TECHNICAL INFORMATION TO BE SUBMITTED WITH OFFER

1. Dimensioned drawing of the bearing.
2. Type & Make of bearing.
3. Significance of each suffix/prefix.
4. Accuracy class: (Normal/P5/P6)
5. Suitability for application: (Traction/Industrial)
6. Number of rollers & size.
7. Radial internal clearance.
8. Axial clearance.
9. Type of cage construction: (Standard/Drop roller)
10. Type of cage guiding: (Roller/Outer race)
11. Cage Material: (Brass/Steel)
12. Material specification for rollers & races.
13. Surface finish on rollers and races.
14. Dynamic capacity of bearing.
15. Static capacity of bearing.
16. Maximum permissible speed (with Grease lubrication)

GENERAL REQUIREMENTS

Bearings offered should conform to the below mentioned requirements:

1. Bearings should be of special execution for traction application with suffix VA301 (SKF), F1 (FAG), SV1 (STEYR), MT (RHP) etc. Following special features may be envisaged in design and manufacturing processes.
 - 1.1 Improved and uniform surface finish by grinding of track chamfers, honing of tracks and lapping of rollers.
 - 1.2 Optimized cage construction for efficient lubrication.
 - 1.3 Vibration and noise level specially controlled.
 - 1.4 Bearings rings stabilized for higher temperatures.
 - 1.5 Uniform hardness on bearing rings and rollers, variation not exceeding ½ RC with in the same element.
 - 1.6 We require bearings with interchangeable assembly only.
2. Accuracy class for internal dimensions of bearing to be P5/P6.
3. Rollers should be designed to cater for increased load carrying capacity.