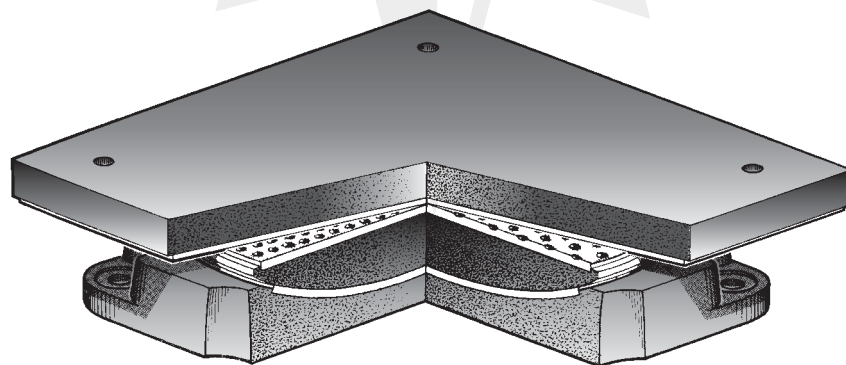


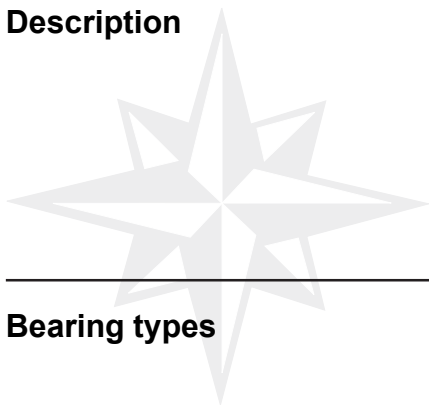


G Series
Spherical Bearings



www.ekspan.com

Description



Ekspan G Series is a range of spherical structural bearings designed to permit angular rotations about any axis. Fixed, Free & Constrained bearings are available as standards to support loads up to 30,000kN.

The bearings fully meet the requirements of the British Department of Transport and BS5400 Section 9.

They are manufactured to meet all know quality standards throughout the world.

Bearing types

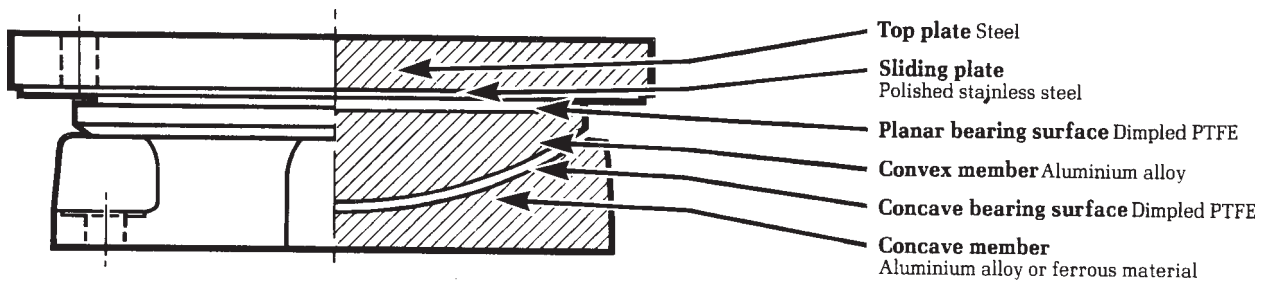
Spherical G bearings are available in three forms -

10G Fixed

11G Free to move in one horizontal direction

12G Free to move in any horizontal direction

Typical 12G details



Attachment

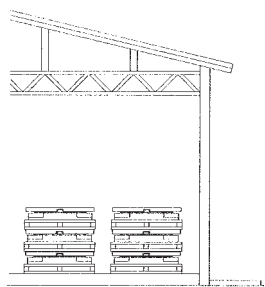
Fixing holes are provided in the top and base members of the bearings. This enables a variety of fixing methods to be used. Ekspan standard fixings are designed to ensure the bearings can be removed as simply as possible. See page 12

Installation

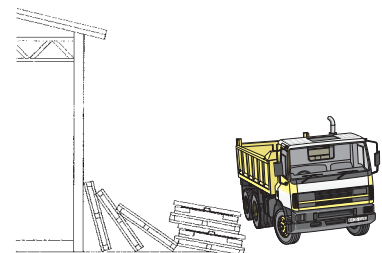
Our structural bearings are manufactured to close tolerances by skilled technicians working in clean conditions. To obtain the requisite performance from bearings it is imperative that they are properly handled at the work site and installed with the same care as when they were assembled in the factory. The following notes will assist those responsible for specifying and supervising the installation of structural bearings.

Storage

Our structural bearings are protected from contamination under normal working conditions by an efficient sealing system. Care should be taken in storage to prevent contamination and damage to the working surfaces.



Correct



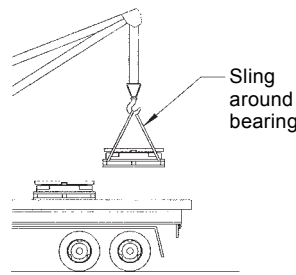
Incorrect

Handling

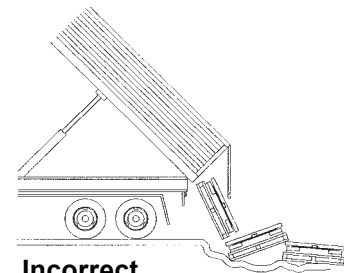


Robust transportation devices are fitted to all bearings to ensure that the components are maintained in their correct relative positions before and during installation. The devices are normally finished in red paint. Unless special devices have been specified, they should not be used for slinging or suspending the bearings beneath beams.

Due to unpredictable conditions, which may occur during transportation or handling on site, the alignment and presetting (if applicable) of the assembled bearing should be checked against the drawing. Do not endeavour to rectify any discrepancies on site. The bearing should either be returned to Ekspan or, where practical, an Ekspan engineer should be called in to inspect and reassemble. Bearings too heavy to be lifted by hand should be properly slung using lifting equipment.



Correct



Incorrect

Presetting

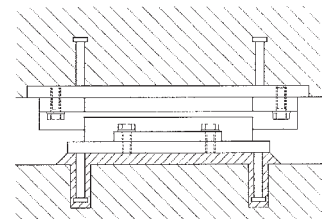
If bearings are required to be preset eg where once only large movements may occur during stressing operations, this should be specified as a requirement and should only be carried out in our works prior to despatch. Do not attempt this operation on site.

Bedding

Bearings must be supported on a flat rigid bed. Steel spreader plates must be machined flat and smooth to mate exactly with the bearings' upper and lower faces. Bearings may also be bedded on epoxy or cement mortar or by dry packing. Whichever system is preferred for the particular structure it is of extreme importance that the final bedding is free from high or hard spots, shrinkage, voids, etc.

Unless there is a specific design requirement, the planar surfaces must be installed in a horizontal plane. The correct installation of bearings is vital for the bearing performance. Costly repairs become necessary all too often due to inadequate specification or poor site supervision. The bearings should not be loaded until the bedding mortar has cured.

Fixing bearings to concrete using permanent anchor plates

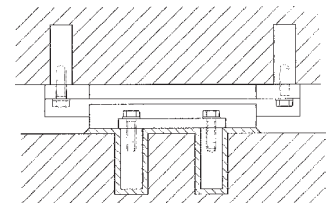


Cast-in-situ structures

Care must be taken to ensure that the bearings are not damaged by the formwork or contaminated by concrete seepage. The interface between the top plate and the formwork should be protected and sealed.

Owing to the loading effects of a wet concrete mass, the top plates should be propped to prevent rotation and plate distortion. Bearing top plates of PTFE sliding bearings are especially vulnerable in this respect.

Fixing cast-in-situ structures ensure that the bearing working surfaces are protected and supported to prevent distortion and rotation



Bearing removability

Where possible, bearings should be fixed in such a manner as to facilitate removal. Our bearings have generally been designed with this in mind. However, when selecting the bearing type preferred, the removability feature should be highlighted in your enquiry.

Removal of transport brackets

These brackets, normally painted red should only be removed when the bearing is properly installed and ready for operation.

Check list for the installation of bearings

DO-

1. Handle carefully and where necessary with adequate craneage.
2. Store in a clean dry place.
3. Ensure that the bearings are installed in the correct location and orientation.
4. Ensure that the bearings are installed on a flat rigid bed before the design loads are applied.
5. Ensure that the fixings are uniformly tightened.
6. Complete any site coatings and make good paint damaged during handling and installation.
7. Protect working surfaces during the placing of in-situ concrete.
8. Keep the bearings and surrounding areas clean.
9. Remove any temporary transit clamps etc. before the bearings are required to operate.
10. Take special care to support top plates when casting in-situ concrete.

DO NOT-

1. Dismantle the bearing on site.
 2. Leave bearings uncovered.
 3. Attempt to modify without our approval.
 4. Install without qualified supervision.
-

Site Coating

Care should be taken to ensure that working surfaces are not damaged in any site coating operation. After installation damaged coatings must be repaired irrespective of any call for site coatings. Exposed fixing bolts should be protected after final tightening. Any tapped holes exposed after removal of transportation brackets etc. (coloured red) should be sealed with self-vulcanizing silicone sealant.

Routine maintenance of bearings

1. Immediately following installation bearings shall be inspected to ensure that all aspects of 'Installation of bearings' have been adhered to and bearings shall subsequently be re-inspected not less frequently than every two years after their installation.
2. Paint and /or other specified protective coatings must be maintained in good and efficient condition and free from scratches or chips. Any areas of the protective coating showing damage or distress must be rectified.
3. Areas surrounding the bearings must be kept clean and dry and free from the adverse effects of external influences such as airborne debris or water/salt (for example emanating from leaking joints).
4. The wearing surfaces of the bearing must be checked to ensure that they are continuing to operate efficiently.
5. Fixing bolts must be checked for tightness.
6. Any bedding material showing signs of distress or ineffectiveness must be replaced and the reason for its failure investigated and corrected.
7. Routine inspections shall include a check that translational and rotational capacities of the bearing have not been exceeded and show no sign of being likely to exceed the requirements specified at the design stage.

Concrete stress

Where suitable reinforcement of the concrete has been provided the allowable concrete stress is dependent on the relative dimensions of the bearing/structure interface, the total support area, and the characteristic strength of the concrete. The stress on the structure should therefore be checked to ensure that it is acceptable.

At the **Nominal Rating** capacity tabulated the mean stress approaches 20 N/mm².

Design loads

The designation of loadings varies depending on the design code employed. The tabulated load capacities list Nominal Rating, at which load the base concrete stress is 20N/mm² maximum. The **Working Stress / Serviceability Limit State** maximum loads are determined by the allowable PTFE stresses. The **Ultimate Limit State** maximum load characteristics are determined by the strength characteristics of the bearing and incorporate the material and partial safety factors Y_m and Y_{f3} as required by BS 5400.

The practice of stating working loads, or nominal loads is inappropriate for limit state designs. The SLS and ULS capacities represent design load effects, i.e. nominal loads to which ALL the appropriate factors have been applied. Factored loads must be provided to ensure correct bearing selection.

Rotation

All the bearings can rotate at least 0.035 radians about any horizontal axis.

Movement

The dimensions for the 11 G (Constrained) and 12G (Free) bearings are shown in the tables for the following movements -

| | Longitudinal | Transverse |
|------------|---------------------|-------------------|
| 11G | 100 mm total | NIL (see page 8) |
| 12G | 100 mm total | 20 mm total |

Movements in increments of 50 mm total can be supplied. The top plate dimensions and the top fixing centres should be increased accordingly.

NB 11G bearings should not be used where movement is required at right angles to the constraints.

The required movements should be specified in the part number as described below.

Designation of part no.

The part no of a bearing is simply built up as below -
e.g.

| | Type | Maximum Working Load (kN) | Movement | | Fixing | |
|---|------------|---------------------------|-------------------|-----------------|--------|------|
| | | | Longitudinal (mm) | Transverse (mm) | Top | Base |
| a | 10G | 5000 | | | S | S |
| b | 11G | 5000 | 100 | | B | S |
| c | 12G | 5000 | 100 | 20 | N | B |

Full part no for c above is 12G500/100/20/NB

This denotes a free Spherical G Bearing of -

| | | |
|-----------------------|--------------|--|
| Working load capacity | | 5000kN maximum |
| Movement | Longitudinal | 100 mm total |
| | Transverse | 20mm total |
| Fixing method | | No fixings in top plate Bolts in base plate |

Bearing design loads

Bearings should be selected to suit the appropriate design code.
The maximum vertical and horizontal loads shown in the tables may be taken in combination.

Horizontal loading

The 10G Fixed Bearing will resist a horizontal force acting in any direction. The horizontal load capacity is the **lesser** of two conditions -
a) 25% of the vertical load operating at the moment the horizontal force is present or
b) The loading shown in the load/dimension tables.

At ULS, the actual load combination may permit the use of a vertical load higher than that shown in the table.

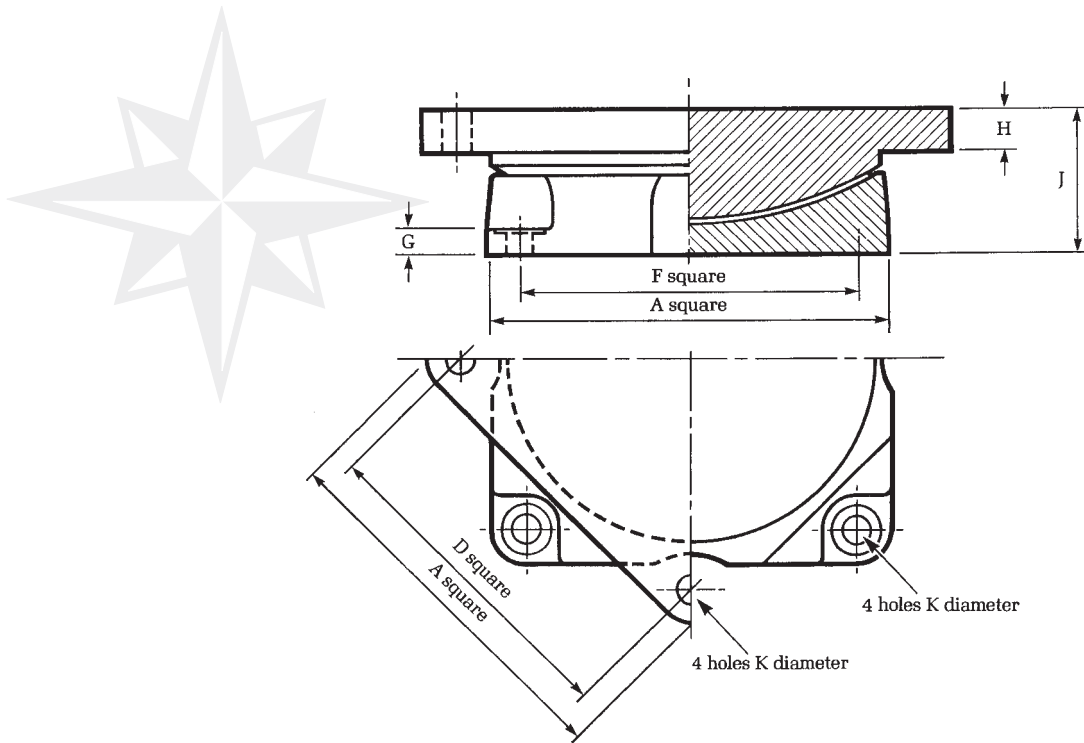
We will be pleased to advise.

Concrete stress

Where suitable reinforcement of the concrete has been provided the allowable concrete stress is dependent on the relative dimensions of the bearing/structure interface, the total support area, and the characteristic strength of the concrete. The stress on the structure should therefore be checked to ensure that it is acceptable.

At the **Nominal Rating** capacity tabulated the mean stress approaches 20N/mm².

| Bearing Part no | Nominal Vertical Rating Maximum (kN) | Working/Serviceability Limit State Loads | | | Ultimate Limit State | |
|-----------------|--------------------------------------|--|----------|-----------------|----------------------|-----------------|
| | | Vertical Permanent (kN) | All (kN) | Horizontal (kN) | Vertical (kN) | Horizontal (kN) |
| 10G50 | 500 | 429 | 500 | 75 | 650 | 98 |
| 10G75 | 750 | 642 | 750 | 112 | 975 | 146 |
| 10G100 | 1000 | 851 | 1000 | 150 | 1300 | 195 |
| 10G150 | 1500 | 1301 | 1500 | 225 | 1950 | 293 |
| 10G200 | 2000 | 1718 | 2000 | 300 | 2600 | 390 |
| 10G250 | 2500 | 2121 | 2500 | 375 | 3250 | 488 |
| 10G300 | 3000 | 2566 | 3000 | 450 | 3900 | 585 |
| 10G350 | 3500 | 2970 | 3500 | 525 | 4550 | 683 |
| 10G400 | 4000 | 3403 | 4000 | 600 | 5200 | 780 |
| 10G450 | 4500 | 3865 | 4500 | 675 | 5850 | 878 |
| 10G500 | 5000 | 4256 | 5000 | 750 | 6500 | 975 |
| 10G550 | 5500 | 4666 | 5500 | 825 | 7150 | 1073 |
| 10G600 | 6000 | 5095 | 6000 | 900 | 7800 | 1170 |
| 10G700 | 7000 | 5891 | 7000 | 1050 | 9100 | 1365 |
| 10G800 | 8000 | 6745 | 8000 | 1200 | 10400 | 1560 |
| 10G900 | 9000 | 7656 | 9000 | 1350 | 11700 | 1755 |
| 10G1000 | 10000 | 8483 | 10000 | 1500 | 13000 | 1950 |
| 10G1200 | 12000 | 10110 | 12000 | 1800 | 15600 | 2340 |
| 10G1400 | 14000 | 11879 | 14000 | 2100 | 18200 | 2730 |
| 10G1600 | 16000 | 13611 | 16000 | 2400 | 20800 | 3120 |
| 10G1800 | 18000 | 15271 | 18000 | 2630 | 23400 | 3419 |
| 10G2000 | 20000 | 16826 | 20000 | 2830 | 26000 | 3679 |
| 10G2250 | 22500 | 19088 | 22500 | 3080 | 29250 | 4004 |
| 10G2500 | 25000 | 21044 | 25000 | 3330 | 32500 | 4329 |
| 10G3000 | 30000 | 25243 | 30000 | 3830 | 39000 | 4979 |



| Bearing Part no | Installation Dimensions (mm) | | | | | | | Total Approx Weight * (Kg) |
|-----------------|------------------------------|------|------|----|-----|-----|----|----------------------------|
| | A | D | F | G | H | J | K | |
| 10G50 | 190 | 160 | 160 | 14 | 18 | 66 | 14 | 20 |
| 10G75 | 245 | 195 | 195 | 22 | 27 | 86 | 14 | 42 |
| 10G100 | 260 | 210 | 210 | 22 | 25 | 87 | 14 | 48 |
| 10G150 | 295 | 245 | 245 | 22 | 25 | 97 | 14 | 68 |
| 10G200 | 335 | 275 | 275 | 26 | 28 | 110 | 18 | 99 |
| 10G250 | 385 | 305 | 305 | 33 | 36 | 132 | 18 | 157 |
| 10G300 | 405 | 325 | 325 | 33 | 37 | 132 | 18 | 174 |
| 10G350 | 430 | 350 | 350 | 33 | 37 | 137 | 22 | 203 |
| 10G400 | 465 | 370 | 370 | 39 | 40 | 148 | 22 | 257 |
| 10G450 | 490 | 395 | 395 | 39 | 42 | 155 | 22 | 298 |
| 10G500 | 515 | 420 | 420 | 39 | 44 | 162 | 26 | 344 |
| 10G550 | 560 | 435 | 435 | 52 | 53 | 181 | 26 | 455 |
| 10G600 | 575 | 450 | 450 | 52 | 53 | 181 | 26 | 479 |
| 10G700 | 610 | 485 | 485 | 52 | 55 | 191 | 26 | 569 |
| 10G800 | 650 | 525 | 525 | 52 | 58 | 202 | 32 | 683 |
| 10G900 | 690 | 565 | 565 | 52 | 62 | 215 | 32 | 819 |
| 10G1000 | 730 | 580 | 580 | 61 | 66 | 227 | 32 | 968 |
| 10G1200 | 795 | 645 | 645 | 61 | 72 | 252 | 38 | 1275 |
| 10G1400 | 860 | 690 | 690 | 69 | 78 | 271 | 38 | 1604 |
| 10G1600 | 920 | 750 | 750 | 69 | 84 | 289 | 38 | 1957 |
| 10G1800 | 975 | 805 | 805 | 69 | 90 | 305 | 38 | 2320 |
| 10G2000 | 1030 | 860 | 860 | 69 | 96 | 273 | 38 | 2318 |
| 10G2250 | 1090 | 920 | 920 | 69 | 101 | 288 | 38 | 2738 |
| 10G2500 | 1150 | 980 | 980 | 69 | 107 | 307 | 38 | 3249 |
| 10G3000 | 1260 | 1090 | 1090 | 69 | 118 | 338 | 38 | 4293 |

* Excluding Fixings

Bearing design loads

Bearings should be selected to suit the appropriate design code.
The maximum vertical and horizontal loads shown in the tables may be taken in combination.

Horizontal loading

The 11G Guided Bearing will resist a horizontal force acting at right angles to the main direction of movement. The horizontal load capacity is the **lesser** of two conditions -

a) 25% of the vertical load operating at the moment the horizontal force is present or b) the loading shown in the load/dimension tables.

At ULS, the actual load combination may permit the use of a vertical load higher than that shown in the table.

We will be pleased to advise.

Transverse movement

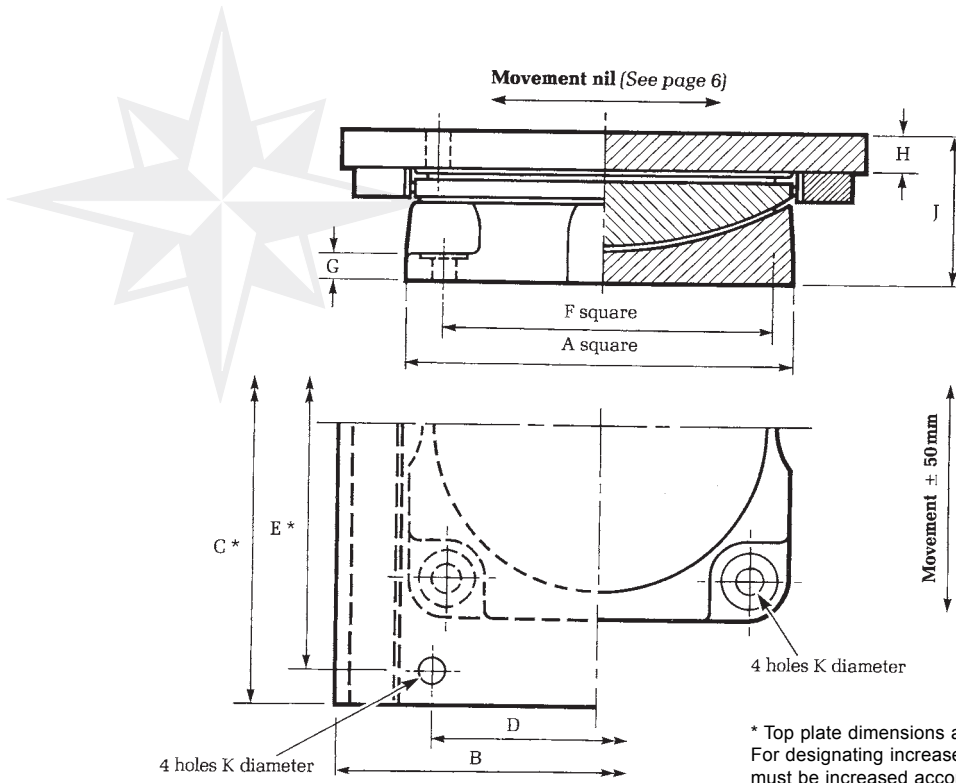
11 G Bearings are designed to accommodate movement in one direction only. Movement transverse to the guide bars is nominally zero. In practice the transverse movement is 1.5mm maximum.

Standard 11 G Bearings should not be used where movement is required at right angles to the constraints. Special bearings can be offered for such requirements.

Concrete stress

Where suitable reinforcement of the concrete has been provided the allowable concrete stress is dependent on the relative dimensions of the bearing/structure interface, the total support area, and the characteristic strength of the concrete. The stress on the structure should therefore be checked to ensure that it is acceptable. At the **Nominal Rating** capacity tabulated the mean stress approaches 20N/mm².

| Bearing Part no | Nominal Vertical Rating Maximum (kN) | Working/Serviceability Limit State Loads | | | Ultimate Limit State | |
|-----------------|--------------------------------------|--|----------|-----------------|----------------------|-----------------|
| | | Vertical Permanent (kN) | All (kN) | Horizontal (kN) | Vertical (kN) | Horizontal (kN) |
| 11G50 | 500 | 429 | 500 | 50 | 650 | 65 |
| 11G75 | 750 | 642 | 750 | 75 | 975 | 98 |
| 11G100 | 1000 | 851 | 1000 | 100 | 1300 | 130 |
| 11G150 | 1500 | 1301 | 1500 | 150 | 1950 | 195 |
| 11G200 | 2000 | 1718 | 2000 | 200 | 2600 | 260 |
| 11G250 | 2500 | 2121 | 2500 | 250 | 3250 | 325 |
| 11G300 | 3000 | 2566 | 3000 | 300 | 3900 | 390 |
| 11G350 | 3500 | 2970 | 3500 | 350 | 4550 | 455 |
| 11G400 | 4000 | 3403 | 4000 | 400 | 5200 | 520 |
| 11G450 | 4500 | 3865 | 4500 | 450 | 5850 | 585 |
| 11G500 | 5000 | 4256 | 5000 | 500 | 6500 | 650 |
| 11G550 | 5500 | 4666 | 5500 | 550 | 7150 | 715 |
| 11G 600 | 6000 | 5095 | 6000 | 600 | 7800 | 780 |
| 11G700 | 7000 | 5891 | 7000 | 700 | 9100 | 910 |
| 11G800 | 8000 | 6745 | 8000 | 800 | 10400 | 1040 |
| 11G900 | 9000 | 7656 | 9000 | 900 | 11700 | 1170 |
| 11G1000 | 10000 | 8483 | 10000 | 1000 | 13000 | 1300 |
| 11G1200 | 12000 | 10110 | 12000 | 1100 | 15600 | 1430 |
| 11G1400 | 14000 | 11879 | 14000 | 1330 | 18200 | 1729 |
| 11G1600 | 16000 | 13611 | 16000 | 1480 | 20800 | 1924 |
| 11G1800 | 18000 | 15271 | 18000 | 1620 | 23400 | 2106 |
| 11G2000 | 20000 | 16826 | 20000 | 1750 | 26000 | 2275 |
| 11G2250 | 22500 | 19088 | 22500 | 1898 | 29250 | 2467 |
| 11G2500 | 25000 | 21044 | 25000 | 2031 | 32500 | 2640 |
| 11G3000 | 30000 | 25243 | 30000 | 2250 | 39000 | 2925 |



* Top plate dimensions are for the movements shown.
For designating increased movements the dimensions marked thus * must be increased accordingly. See page 5

| Bearing Part no | Installation Dimensions (mm) | | | | | | | | | | Total Approx Weight * (Kg) |
|-----------------|------------------------------|------|------|------|------|------|----|----|-----|----|----------------------------|
| | A | B | C | D | E | F | G | H | J | K | |
| 11G50 | 190 | 275 | 310 | 160 | 280 | 160 | 14 | 13 | 80 | 14 | 23 |
| 11G75 | 245 | 315 | 365 | 195 | 315 | 195 | 22 | 17 | 98 | 14 | 41 |
| 11G100 | 260 | 350 | 380 | 210 | 330 | 210 | 22 | 17 | 102 | 14 | 49 |
| 11G150 | 295 | 410 | 415 | 245 | 365 | 245 | 22 | 22 | 120 | 14 | 78 |
| 11G200 | 335 | 460 | 455 | 275 | 395 | 275 | 26 | 27 | 136 | 18 | 112 |
| 11G250 | 385 | 495 | 500 | 305 | 420 | 305 | 33 | 27 | 147 | 18 | 143 |
| 11G300 | 405 | 540 | 540 | 325 | 460 | 325 | 33 | 32 | 161 | 18 | 184 |
| 11G350 | 430 | 565 | 575 | 350 | 495 | 350 | 33 | 32 | 168 | 22 | 217 |
| 11G400 | 465 | 610 | 605 | 370 | 510 | 370 | 39 | 37 | 182 | 22 | 269 |
| 11G450 | 490 | 635 | 640 | 395 | 545 | 395 | 39 | 37 | 189 | 22 | 311 |
| 11G500 | 515 | 660 | 665 | 420 | 570 | 420 | 39 | 37 | 194 | 26 | 352 |
| 11G550 | 560 | 695 | 695 | 435 | 570 | 435 | 52 | 42 | 214 | 26 | 423 |
| 11G600 | 575 | 715 | 720 | 450 | 595 | 450 | 52 | 42 | 215 | 26 | 454 |
| 11G700 | 610 | 765 | 770 | 485 | 645 | 485 | 52 | 47 | 230 | 26 | 566 |
| 11G800 | 650 | 805 | 815 | 525 | 690 | 525 | 52 | 47 | 239 | 32 | 671 |
| 11G900 | 690 | 840 | 860 | 565 | 735 | 565 | 52 | 52 | 253 | 32 | 814 |
| 11G1000 | 730 | 890 | 900 | 580 | 750 | 580 | 61 | 52 | 265 | 32 | 907 |
| 11G1200 | 795 | 960 | 975 | 645 | 825 | 645 | 61 | 57 | 289 | 38 | 1199 |
| 11G1400 | 860 | 1025 | 1045 | 690 | 875 | 690 | 69 | 62 | 310 | 38 | 1476 |
| 11G1600 | 920 | 1075 | 1110 | 750 | 940 | 750 | 69 | 67 | 327 | 38 | 1810 |
| 11G1800 | 975 | 1120 | 1175 | 805 | 1005 | 805 | 69 | 72 | 343 | 38 | 2163 |
| 11G2000 | 1030 | 1165 | 1230 | 860 | 1060 | 860 | 69 | 72 | 304 | 38 | 2199 |
| 11G2250 | 1090 | 1225 | 1300 | 920 | 1130 | 920 | 69 | 77 | 319 | 38 | 2620 |
| 11G2500 | 1150 | 1285 | 1365 | 980 | 1195 | 980 | 69 | 82 | 336 | 38 | 3103 |
| 11G3000 | 1260 | 1405 | 1485 | 1090 | 1315 | 1090 | 69 | 92 | 365 | 38 | 1431 |

* Excluding Fixings

Bearing design loads

Bearings should be selected to suit the appropriate design code.
If in doubt please ask our advise.

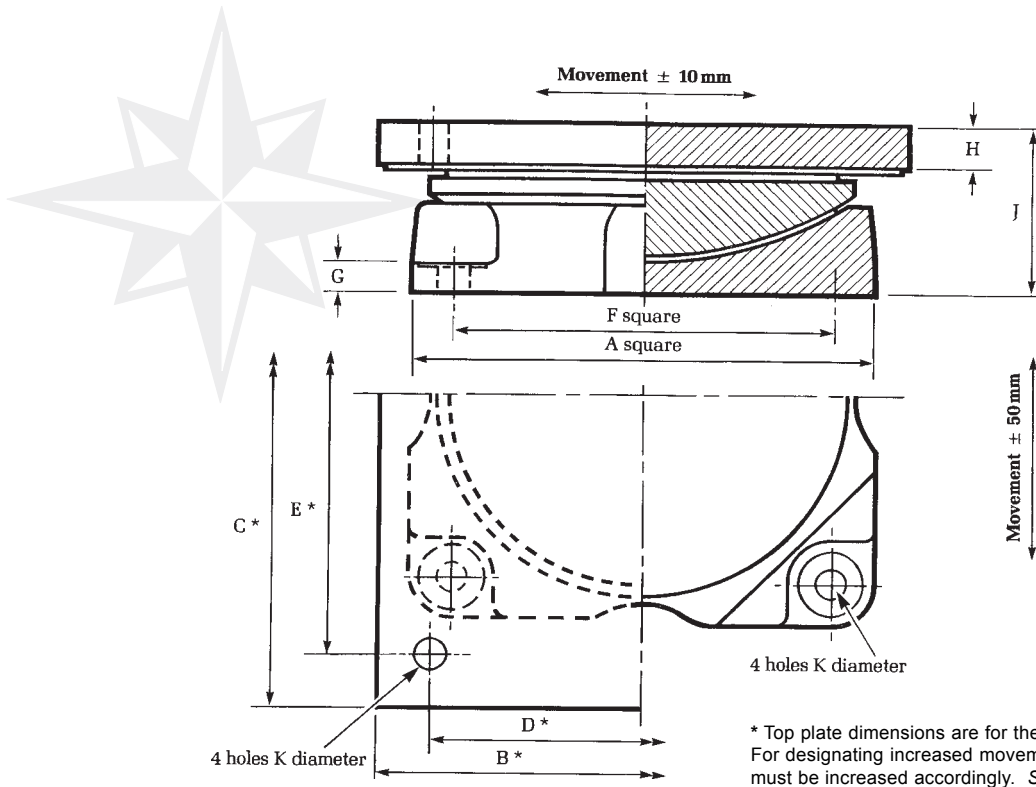
Concrete stress

Where suitable reinforcement of the concrete has been provided the allowable concrete stress is dependent on the relative dimensions of the bearing/structure interface, the total support area, and the characteristic strength of the concrete.

The stress on the structure should therefore be checked to ensure that it is acceptable.

At the **Nominal Rating** capacity tabulated the mean stress approaches 20N/mm².

| Bearing Part no | Nominal Vertical Rating Maximum (kN) | Working/Serviceability Limit State Loads Vertical | | Ultimate Limit State Vertical (kN) |
|-----------------|--------------------------------------|---|-------|------------------------------------|
| | | Permanent (kN) | (kN) | |
| 12G50 | 500 | 429 | 500 | 650 |
| 12G75 | 750 | 642 | 750 | 975 |
| 12G100 | 1000 | 851 | 1000 | 1300 |
| 12G150 | 1500 | 1301 | 1500 | 1950 |
| 12G200 | 2000 | 1718 | 2000 | 2600 |
| 12G250 | 2500 | 2121 | 2500 | 3250 |
| 12G300 | 3000 | 2566 | 3000 | 3900 |
| 12G350 | 3500 | 2970 | 3500 | 4550 |
| 12G400 | 4000 | 3403 | 4000 | 5200 |
| 12G450 | 4500 | 3865 | 4500 | 5850 |
| 12G500 | 5000 | 4256 | 5000 | 6500 |
| 12G550 | 5500 | 4666 | 5500 | 7150 |
| 12G600 | 6000 | 5095 | 6000 | 7800 |
| 12G700 | 7000 | 5891 | 7000 | 9100 |
| 12G800 | 8000 | 6745 | 8000 | 10400 |
| 12G900 | 9000 | 7656 | 9000 | 11700 |
| 12G1000 | 10000 | 8483 | 10000 | 13000 |
| 12G1200 | 12000 | 10110 | 12000 | 15600 |
| 12G1400 | 14000 | 11879 | 14000 | 18200 |
| 12G1600 | 16000 | 13611 | 16000 | 20800 |
| 12G1800 | 18000 | 15271 | 18000 | 23400 |
| 12G2000 | 20000 | 16826 | 20000 | 26000 |
| 12G2250 | 22500 | 19088 | 22500 | 29250 |
| 12G2500 | 25000 | 21044 | 25000 | 32500 |
| 12G3000 | 30000 | 25243 | 30000 | 39000 |



| Bearing Part no | Installation Dimensions (mm) | | | | | | | | | | Total Approx Weight * (Kg) |
|-----------------|------------------------------|------|------|------|------|------|----|----|-----|----|----------------------------|
| | A | B | C | D | E | F | G | H | J | K | |
| 12G50 | 190 | 200 | 280 | 160 | 250 | 160 | 14 | 13 | 74 | 14 | 24 |
| 12G75 | 245 | 240 | 320 | 195 | 270 | 195 | 22 | 17 | 90 | 14 | 46 |
| 12G100 | 260 | 275 | 355 | 210 | 305 | 210 | 22 | 17 | 93 | 14 | 55 |
| 12G150 | 295 | 330 | 410 | 245 | 360 | 245 | 22 | 22 | 109 | 14 | 85 |
| 12G200 | 335 | 380 | 460 | 275 | 400 | 275 | 26 | 27 | 124 | 14 | 125 |
| 12G250 | 385 | 420 | 500 | 305 | 420 | 305 | 33 | 27 | 132 | 14 | 170 |
| 12G300 | 405 | 460 | 540 | 325 | 460 | 325 | 33 | 32 | 145 | 14 | 212 |
| 12G350 | 430 | 495 | 575 | 350 | 495 | 350 | 33 | 32 | 151 | 14 | 249 |
| 12G400 | 465 | 525 | 605 | 370 | 510 | 370 | 39 | 37 | 164 | 14 | 314 |
| 12G450 | 490 | 560 | 640 | 395 | 545 | 395 | 39 | 37 | 169 | 14 | 360 |
| 12G500 | 515 | 585 | 665 | 420 | 570 | 420 | 39 | 37 | 174 | 14 | 406 |
| 12G550 | 560 | 615 | 695 | 435 | 570 | 435 | 52 | 42 | 191 | 14 | 518 |
| 12G600 | 575 | 640 | 720 | 450 | 595 | 450 | 52 | 42 | 191 | 14 | 549 |
| 12G700 | 610 | 690 | 770 | 485 | 645 | 485 | 52 | 47 | 205 | 18 | 671 |
| 12G800 | 650 | 735 | 815 | 525 | 690 | 525 | 52 | 47 | 214 | 18 | 790 |
| 12G900 | 690 | 780 | 860 | 565 | 735 | 565 | 52 | 52 | 229 | 18 | 954 |
| 12G1000 | 730 | 820 | 900 | 580 | 750 | 580 | 61 | 52 | 237 | 22 | 1096 |
| 12G1200 | 795 | 895 | 975 | 645 | 825 | 645 | 61 | 57 | 262 | 22 | 1435 |
| 12G1400 | 860 | 965 | 1045 | 690 | 875 | 690 | 69 | 62 | 281 | 22 | 1796 |
| 12G1600 | 920 | 1030 | 1110 | 750 | 940 | 750 | 69 | 67 | 300 | 22 | 2191 |
| 12G1800 | 975 | 1095 | 1175 | 805 | 1005 | 805 | 69 | 72 | 316 | 26 | 2597 |
| 12G2000 | 1030 | 1150 | 1230 | 860 | 1060 | 860 | 69 | 72 | 278 | 26 | 2564 |
| 12G2250 | 1090 | 1220 | 1300 | 920 | 1130 | 920 | 69 | 77 | 295 | 26 | 3050 |
| 12G2500 | 1150 | 1285 | 1365 | 980 | 1195 | 980 | 69 | 82 | 313 | 26 | 3595 |
| 12G3000 | 1260 | 1405 | 1485 | 1090 | 1315 | 1090 | 69 | 92 | 346 | 26 | 4762 |

* Excluding Fixings

The fixings described below are designed to suit the requirements of Spherical G bearings.

Standard Spherical G fixings

By adding a two letter suffix to the bearing part number the type of fixing may be designated -

First letter - Top plate fixing Second letter - Base plate fixing

N - No fixings

B - Bolts & washers only

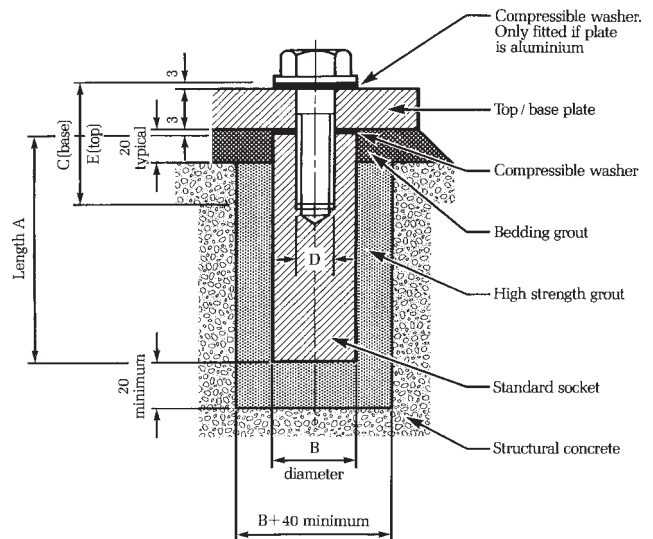
S - Bolts, washers & sockets

eg /BS signifies

B (top plate fixing) Bolts & washers

S (base plate fixing) Bolts, washers & sockets

NB If Ekspan Standard fixings are **not** used, care should be taken to ensure that bolts can be fitted without dismantling the bearing.



Bearing Type

| Bearing Size | 10G | | | | | 11G | | | | | 12G | | | | |
|--------------|----------|----------|-------------|-------------|-------|----------|----------|-------------|-------------|-------|----------|----------|-------------|-------------|-------|
| | Socket B | Socket A | Bolt Base D | Bolt Base C | Top E | Socket B | Socket A | Bolt Base D | Bolt Base C | Top E | Socket B | Socket A | Bolt Base D | Bolt Base C | Top E |
| 50 | 35 | 110 | 12 | 35 | 40 | 35 | 110 | 12 | 35 | 30 | 35 | 110 | 12 | 35 | 30 |
| 75 | 35 | 110 | 12 | 45 | 50 | 35 | 110 | 12 | 45 | 35 | 35 | 110 | 12 | 45 | 35 |
| 100 | 35 | 110 | 12 | 45 | 45 | 35 | 110 | 12 | 45 | 35 | 35 | 110 | 12 | 45 | 35 |
| 150 | 35 | 110 | 12 | 45 | 45 | 35 | 110 | 12 | 45 | 40 | 35 | 110 | 12 | 45 | 40 |
| 200 | 40 | 140 | 16 | 50 | 55 | 40 | 140 | 16 | 50 | 50 | 35 | 110 | 12 | 45 | 45 |
| 250 | 40 | 140 | 16 | 60 | 60 | 40 | 140 | 16 | 60 | 50 | 35 | 110 | 12 | 55 | 45 |
| 300 | 40 | 140 | 16 | 60 | 65 | 40 | 140 | 16 | 60 | 55 | 35 | 110 | 12 | 55 | 50 |
| 350 | 50 | 170 | 20 | 65 | 65 | 50 | 170 | 20 | 65 | 60 | 35 | 110 | 12 | 55 | 50 |
| 400 | 50 | 170 | 20 | 70 | 70 | 50 | 170 | 20 | 70 | 65 | 35 | 110 | 12 | 60 | 55 |
| 450 | 50 | 170 | 20 | 70 | 70 | 50 | 170 | 20 | 70 | 65 | 35 | 110 | 12 | 60 | 55 |
| 500 | 55 | 200 | 24 | 75 | 80 | 55 | 200 | 24 | 75 | 70 | 35 | 110 | 12 | 60 | 55 |
| 550 | 55 | 200 | 24 | 85 | 90 | 55 | 200 | 24 | 85 | 75 | 35 | 110 | 12 | 75 | 60 |
| 600 | 55 | 200 | 24 | 85 | 90 | 55 | 200 | 24 | 85 | 75 | 35 | 110 | 12 | 75 | 60 |
| 700 | 55 | 200 | 24 | 85 | 90 | 55 | 200 | 24 | 85 | 80 | 40 | 140 | 16 | 80 | 70 |
| 800 | 70 | 240 | 30 | 95 | 100 | 70 | 240 | 30 | 95 | 85 | 40 | 140 | 16 | 80 | 70 |
| 900 | 70 | 240 | 30 | 95 | 105 | 70 | 240 | 30 | 95 | 90 | 40 | 140 | 16 | 80 | 75 |
| 1000 | 70 | 240 | 30 | 100 | 105 | 70 | 240 | 30 | 100 | 90 | 50 | 170 | 20 | 90 | 80 |
| 1200 | 80 | 300 | 36 | 110 | 120 | 80 | 300 | 36 | 110 | 100 | 50 | 170 | 20 | 90 | 85 |
| 1400 | 80 | 300 | 36 | 115 | 125 | 80 | 300 | 36 | 115 | 105 | 50 | 170 | 20 | 100 | 90 |
| 1600 | 80 | 300 | 36 | 115 | 130 | 80 | 300 | 36 | 115 | 110 | 50 | 170 | 20 | 100 | 95 |
| 1800 | 80 | 300 | 36 | 115 | 140 | 80 | 300 | 36 | 115 | 115 | 55 | 200 | 24 | 105 | 105 |
| 2000 | 80 | 300 | 36 | 115 | 145 | 80 | 300 | 36 | 115 | 115 | 55 | 200 | 24 | 105 | 105 |
| 2250 | 80 | 300 | 36 | 115 | 150 | 80 | 300 | 36 | 115 | 120 | 55 | 200 | 24 | 105 | 110 |
| 2500 | 80 | 300 | 36 | 115 | 155 | 80 | 300 | 36 | 115 | 125 | 55 | 200 | 24 | 105 | 115 |
| 3000 | 80 | 300 | 36 | 115 | 165 | 80 | 300 | 36 | 115 | 135 | 55 | 200 | 24 | 105 | 125 |

Bolts are hexagon head to BS3692 grade 8.8

G series bearings are available from:

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Certificate No. 3706