Ball-bearing shims

Ball-bearing shims are laminated rings made of layers of brass foils CW 505L/CuZn 30 which are 0.05 mm thick. They are generally standard products. Ball-Bearing shim rings serve to compensate for tolerances of bearing components without any other further mechanical reworking.

Variants

The ball-bearing shim rings can, if desired, be varied by:
- drilling holes in the annulus
- using stamping processes to flatten or perforate the product
- combining laminated and solid parts
- using solid designs
- on enquiry, carrying out customer-specific designs according to customer drawings

Scope of product definition

Ball-bearing shims are intended to be used to adjust axial backlash. According to the design, laminated shim (M-Tech®L) or solid ring (M-Tech®S), the ring thickness can be adapted by means of peeling off or adding foils.

Manufacturing method

Ball-bearing shims are produced from individual rings from the M-Tech®L product group and then shaped in stamping or nibbling processes.
Usually, brass foils of 0.050 mm thick are used. Upon enquiry, however, variants can be made in other materials or layer thickness according to customer drawings.

Field of application

Ball-bearing shim rings are suited above all for applications where there is little or no standardisation. E.g. for adjustment of bearing clearance in new products or for maintenance and repair work to components.

Handling

The bearing play in the component which is to be compensated is determined using feeler gauges or taken from the construction drawings. The initial thickness of the ball-bearing shim ring which is to be inserted is fixed based on the largest amount of play which is to be compensated. The thickness is reduced by peeling off individual foils in steps of 0.050 mm.

It can be assumed that the stiffness of the laminated shim is in general sufficient for lasting adjustment of the bearing play.

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