Bushings for aluminium pistons

New piston designs have become necessary due to legislation for pollutant emission of diesel engines. These design changes result in rising temperatures in the combustion chamber of the engine, with hot tensile strength and hot hardness of the bushings becoming increasingly important.

Bushings made of Wieland-SB8 and Wieland-SC5 are particularly suitable for the reinforcement of the piston eye.

Wieland is world market leader in this segment!

Bushings for aluminium pistons

Bushings in Wieland-SB8 and Wieland-SC5 are:

- are particularly suitable for aluminium pistons
- are wrought alloys (important: no casting) which are hot and cold worked
- have excellent hot tensile strength
- have outstanding oil corrosion resistance
- have dynamic load resistance up to 170 MPa, with Wieland-SC5 even more than 170 MPa.

Bushings in Wieland-SB8 and Wieland-SC5

Bushings for steel pistons and connecting rods

Performance demands on steel pistons and connecting rods are constantly rising. For extreme loads Wieland-U17 is used. For medium loads also Wieland-SB8 can be used. With respect to connecting-rod bushings Wieland offers to do a PC calculation for the design.

Bushings for steel pistons and connecting rods

Wieland U17 and Wieland-L67

Bushings for engines, in particular for pistons and connecting rods, should always be made of wrought alloys and not of cast alloys.

Wieland-L67 for machined bushings

Best press fit of all materials (press-out force equal to or higher than press-in force)

- Very good corrosion resistance
- Both alloys are wrought alloys
- Coefficient of expansion L66/L67, (20°C – 300°C) 18x10-6xK-1

Wieland-U17

- Excellent for steel pistons
- Load resistance (see link on the right)
- Excellent corrosion resistance
- Wrought alloy (important: no casting)

Wieland-U17

Slide bearings for axial piston pumps/ motors

The very high pressures in axial piston pumps are a challenge for the material and precision of the parts. High-strength materials are increasingly being used for this application. The Wieland materials which have proved successful for many years are presented in the following.

Slide bearings for axial piston pumps/ motors

Sleeves in Wieland SA5

Wieland-SA5 is a special brass which has been specially developed for sleeves in axial piston pumps and successfully used in practical applications for many years. The addition of manganese and silicon results in the formation of hard manganese silicides making the material extremely wear-resistant.

Sleeves

Slippers

Slippers in special brass materials Wieland-SA9 and Wieland-SB7

Slippers not only constitute high-precision bearing elements but are also exposed to extremely high stresses.

The two special brass materials, which form hard silicides due to the addition of manganese and silicon and are therefore highly wear-resistant, also exhibit high fatigue strength. Due to these properties they can be used without problems under high dynamic load and at high operating temperatures.

Slippers