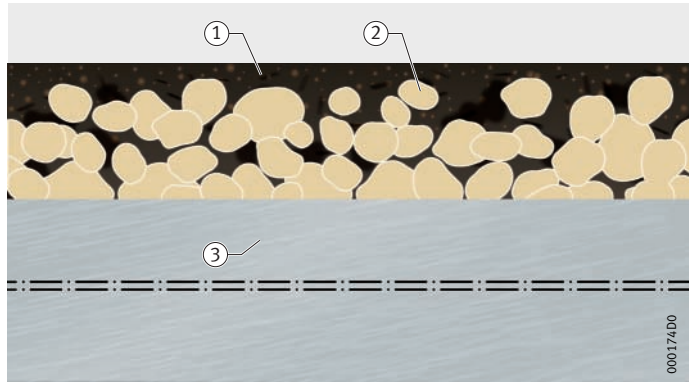
Maintenance-free plain bearing material E430

E430 is the new sliding material of Schaeffler Group Industrial for maintenance-free metal/polymer composite plain bearings. The basis of the dry lubricant is polytetrafluoroethylene (PTFE) with embedded chemically non-reactive additives.

Structure

In the three-layered material, the steel backing has a sintered porous tin/bronze sliding layer whose pores are filled with the dry lubricant of the running-in layer, *Figure 1* and tables.



① Running-in layer
② Sliding layer
③ Steel backing

Figure 1
Maintenance-free plain bearing material E430

Steel backing

Chemical element	Maximum proportion of mass w_{max} %	Hardness HB
Carbon C	0,12	90 – 124
Manganese Mn	0,5	
Phosphorus P	0,04	
Sulphur S	0,045	
Iron Fe	Balance	

Sliding and running-in layer

Chemical element	Proportion of mass w %		Layer thickness mm	
	Sliding layer	Running-in layer	Sliding layer	Running-in layer
Barium sulphate $BaSO_4$	–	18	0,2 – 0,4	0,02 – 0,04
Polytetrafluoroethylene PTFE	–	72		
Other lubricants	–	10		
Tin Sn	9 – 11	–		
Copper Cu	Balance	–		

Application

The lead-free material conforms to the regulations for lead-free plain bearings. It is maintenance-free throughout its life and can be used in the temperature range from –200 °C to +280 °C.

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