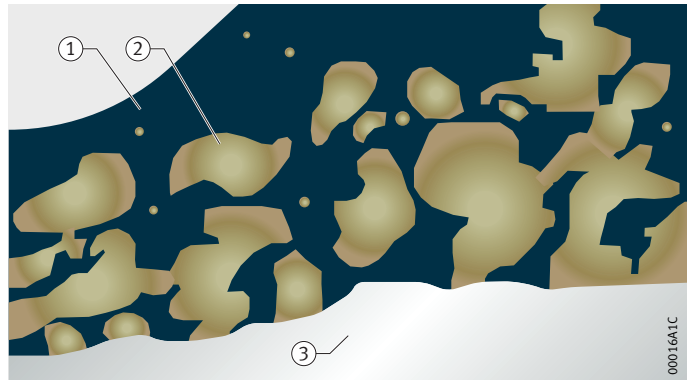


# Low-maintenance plain bearing material E520

E520 is the new sliding material of Schaeffler Group Industrial for low-maintenance metal/polymer composite plain bearings. The sliding layer is based on Polyoxymethylene (POM).

**Structure** The three-layered material consists of a steel backing, an intermediate layer and a sliding layer, *Figure 1*.

- ① Sliding layer
- ② Intermediate layer
- ③ Steel backing



*Figure 1*  
Low-maintenance plain bearing material E520

The steel backing has a sintered porous tin/bronze intermediate layer whose pores are filled with the sliding layer.

## Steel backing

Chemical element	Maximum proportion of mass $w_{\max}$ %	Hardness  HB
Carbon C	0,08	≈100
Manganese Mn	0,4	
Phosphorus P	0,03	
Sulphur S	0,03	
Iron Fe	Balance	

## Sliding and intermediate layer

Chemical element	Proportion of mass $w$ %		Layer thickness mm	
	Intermediate layer	Sliding layer	Intermediate layer	Sliding layer
Polyoxymethylene POM	–	99,8	0,2 – 0,35	0,25 – 0,45
Fillers	max. 0,5	0,2		
Tin Sn	10 – 12	–		
Copper Cu	Balance	–		

## Application

The material conforms to the regulations for lead-free plain bearings. It is low-maintenance throughout its life and can be used in the temperature range from  $-40\text{ °C}$  to  $+120\text{ °C}$ .

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