

# METAFRAM<sup>®</sup> Self lubricating bushes

## Assembly instructions

### USING A MANDREL

(Hardened carbon steel, polished finish, surface hardness 60RC)

Tolerance  $\varnothing$  **m6**

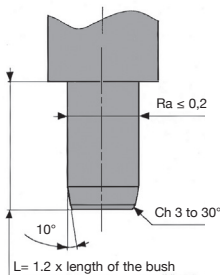
Fit the bush using a press ensuring that the correct diameter mandrel is used so that:

- the bushing is inserted correctly so as to ensure correct seating
- the tolerances of the bore are still correct after fitting

### INSERTING FORCE

Values are given assuming the tolerances are as follows ; mandrel **m6**, bore **H7** with  $Ra \leq 3,2$  and considered to be rigid\* : **100daN/cm<sup>2</sup>** (equivalent surface area at  $\varnothing$ cm from exterior of bushing)

\* What do we mean by rigid? It is a bore or hole in steel (or possibly cast iron) where the wall thickness is at least 3 times the diameter of the bushing



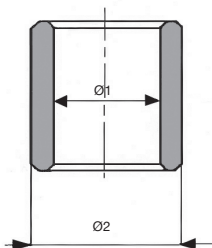
### BUSH BEFORE ASSEMBLY

$\varnothing$  interior -  $\varnothing 1$  cylindrical bush **F7**  
(F8 for  $\varnothing 1 > 50$ mm)

$\varnothing$  interior -  $\varnothing 1$  flanged bush **F8**

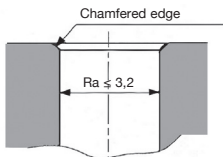
$\varnothing$  interior -  $\varnothing 2$  cylindrical bush **S7**  
(S8 for  $\varnothing 2 > 50$ mm)

$\varnothing$  interior -  $\varnothing 2$  flanged bush **S8**



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## Technical information

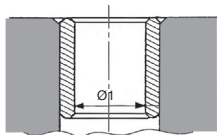


### STEEL HOUSING (in rigid material)

Tolerance  $\varnothing$  H7

The tightness between the bush and the hole and the final tolerances of the bore of the bush have been calculated for a rigid steel housing.

For all other types of support (non rigid or other materials), the tightness may vary and practical tests should be carried out to confirm the bore tolerances.



### BUSH AFTER PRESS FITTING

$\varnothing$  interior –  $\varnothing 1$  cylindrical bush      H7  
(H8 pour  $\varnothing 1 > 50\text{mm}$ )

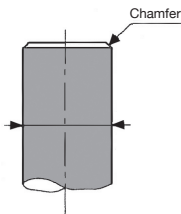
$\varnothing$  interior –  $\varnothing 1$  flanged bush      H8

### SHAFT TO BE USED

Mechanical properties of steel depending on the type of bush  
For a BP25 bush

Steel with a minimum hardness of 80 kg/mm<sup>2</sup>

Ra ≤ 0.6



$\varnothing$  tolerance f7

Where bushes are fitted without additional support (Overmolding or gluing), use an h7 toleranced shaft rather than f7.

### OPERATING CLEARANCES

Running fit H7/f7 or H8/f7

Assembly instructions should be followed to endure the correct operation of the self lubricating bush (lubricating, wear, rubbing).