

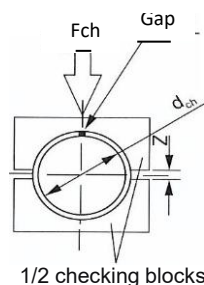
It is not possible to accurately measure the outside and inside diameters of a thin rolled bushing in the free state. In the free state, a thin rolled bushing is not perfectly cylindrical. The bushing conforms to the shape of the housing when the joint is closed and constrained.

*For this reason, the outside and inside diameters of a wrapped bush can only be checked using specific measuring instruments and testing equipment. The inspection methods are defined by the **ISO 3547-2 standard**.*

Outer diameter (OD) control

Test A- ISO 3547-2

Testing the outside diameter (OD) of a rolled bushing using the measuring equipment shown in the diagram on the right, with a checking assembly consisting of two checking blocs (upper and lower) and a setting mandrel. Under a specified test load (Fch) in accordance with the standard, the bushing's outside diameter decreases due to elastic compression, without permanent deformation. The bushing's outside diameter is calculated based on the difference in the Z value. (Δz) with the mandrel.

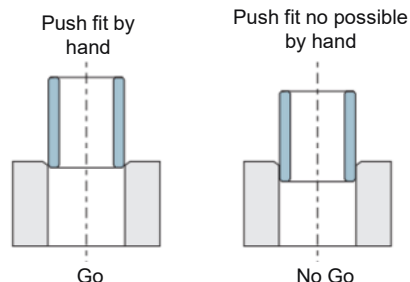


Checking block and mandrel	d,h =	mm
Test force	Fch=	N
Limiting value for	$\Delta Z =$	to mm
Outside diameter	OD=	to mm

Test B- ISO 3547-2

Test for bushes with $OD \leq 180$ mm

The test is performed using two check gauges "Go" gauge and "No-Go" gauge, with diameters specified in the ISO 3547-1 standard. It must be possible to insert the part into the "Go" gauge and then remove it manually (using a maximum force of 250 N). Conversely, it must not be possible to insert it into the "No-Go" gauge using the same force.



Test D- ISO 3547-2

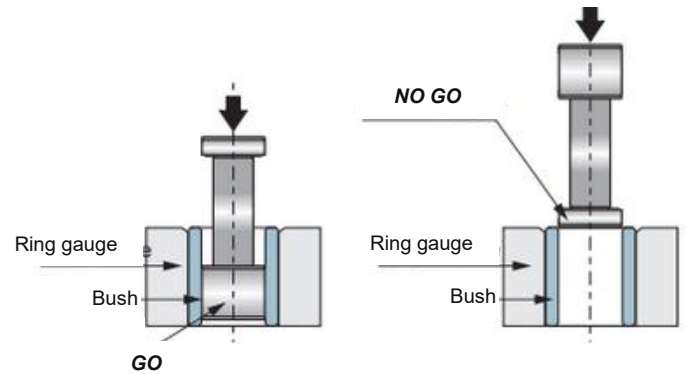
Test for bushes with $OD > 180$ mm

Test performed using a precision tape to measure the ring's circumference.

Inner diameter (ID) check

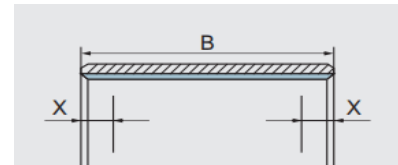
Test C- ISO 3547-2

To check the inside diameter, the bush must be inserted into a ring gauge with a nominal diameter corresponding to the dimension specified in ISO 3547-1. The inside diameter must be measured using a three-point measuring instrument or checked with a "Go" and "No-Go" plug gauge. The "Go" plug gauge must be inserted with minimal effort; the "No-Go" plug gauge must not be insertable by manual pressure (maximum force of 250 N).



Test C alternative

The wall thickness "Ep" is measured at one, two, or three axial positions, depending on the dimensions of the bearing.



Calculate ID

Inner diameter (ID) of the ring after installation in its housing (Lg)

$$ID_{\text{mini}} = Lg_{\text{mini}} - (2 \times Ep_{\text{maxi}})$$

$$ID_{\text{maxi}} = Lg_{\text{maxi}} - (2 \times Ep_{\text{mini}})$$