

TECH NEWS BERTOLOTO & GROTTA

Ref.: Technical data on materials for adapter sleeves.

The international standards for the manufacture of bearing adapter sleeves is ISO 2982-1 and 2 and DIN5415. This defines dimensions, tolerances and mechanical characteristics. In respect to material, DIN 5415 accepts any material that will attend 430 N/mm² of tensile strength, at least..

BGL has as basic material ductile cast iron (nodular) with our own internal standard **BGFN** equivalent to DIN EN 1563 class GJS-500-7 (GGG50) or ABNT-NBR 6916/81 class FE500-07 or ASTM A 536/80 Class 80-55-06.

All above standards have similar mechanical characteristics as per what we show below:

BGL material for sleeves and nuts

Tensile strength.....	Nominal 460 N/mm ²
Yield point.....	Minimum 355 N/mm ²
Elongation.....	Minimum 15 %
Brinell Hardness.....	170 to 210 HB - Brinell

One of the important characteristics that ductile iron casting has is it's lubrication properties due to the graphite content. This allows for better tightening with less effort and prevents locking-up nuts on removal. The graphite properties also prevent the possibility of heat bonding between sleeve and bearing.

MATERIAL COMPARISON BGL VERSUS OTHERS

Especification	Tensile strength N/mm2	Yield Point N/mm2	Strech %	Brinell Hardness (HB)
Standard ISO 2982-1 DIN 5415 for sleeves	min. 430	No spec.	no spec.	no spec.
ROLLED STEEL SAE 1020 / ASTM A-36	Min 400	min. 250	min. 20	min. 121
BGFN (norma DIN 1693) – BGL	Min 460	min. 355	min. 15	min. 170

Comparison on material performance shows the BGL alloy being better and more resistant of alternative materials. Remember that ductile does not need heat treatment for stress relief and for steel is necessary reducing even more mechanical properties for parts made from steel. BGL indicates and produce ductile, but also produce sleeves in steel according to customer request.

BGL ductile material is the best for sleeves and nuts for bearings.

BGL - International Standards and ISO 9001:2000