

CENTRIFUGAL CASTING

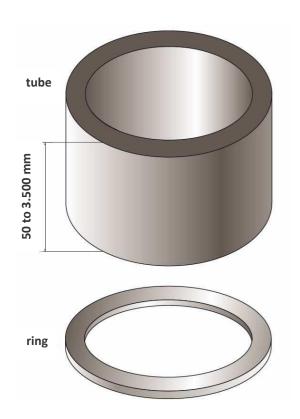
Stainless & heat resisting steels

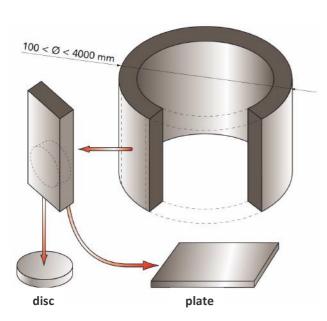
Copper based alloys — Aluminium alloys

METALLIC ALLOY WITH HIGH DAMPING PROPERTIES

EXIUM[®] AM

Due to a specific industry need, LBI has developed a new non-ferrous alloy. Thanks to its chemical composition and its production by centrifugal casting, its distinctive characteristic is to offer excellent damping properties for a metallic material (comparable to those of a polymer type material).





Properties of parts in Exium[®] AM:

Mechanical properties :

Rp0,2 > 240 Mpa - Rm > 520 Mpa - A > 30%

Young Modulus : E= 80 Gpa Torsion Modulus : G= 34 Gpa Poisson Coefficient: 0,25

Damping properties (at 20°C):

tg φ approx. 1,80x10⁻² (Equivalent to $2\pi \sin\varphi$ ca. 11,30x10⁻²)

Damping of various vibrations:

Longitudinal mode (4,6 khertz), tg ϕ = 1,51x10⁻² Flexion mode (240 hertz), tg ϕ = 1,75x10⁻² Torsion mode (2,7 khertz), tg ϕ = 0,82x10⁻²

This material keeps its damping properties between -15°C and +50°C. Below -30°C and above +60°C, its damping properties are similar to those of grey iron.

Other properties:

Very good corrosion resistance

Density: 7.2

Excellent Machinability