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 2π sinφ 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