

Sintered Materials Applied in Noise Reduction in Mechanical Parts

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Reduction on noise emissions from machines and equipment have become a project requirement. Efforts in vibration control will go to saturation, then, it's necessary to control the noise emission in the process of sound radiation. Damping materials applied in the flat surfaces is the first step but in many cases impracticable. The use of intrinsically damped materials is well know, but only few materials can attempt to mechanical requirements (such brass, aluminum alloys, etc.), or compatible prices. Sintered materials are good candidates because of two factors: well-consolidated process and intrinsic damping from discontinuities (porosity). In this work will be show, from the acoustic theory, the effect of typical microstructures, from sintered materials, in sound radiation and consequently, in noise reduction. Some measures of mechanical damping were made to compare traditional and sintered materials. The advantages of sintered materials are clear and promissing.