

عنوان مقاله:

Effect of porosity: Vibration damp with porous material

محل انتشار:

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خلاصه مقاله:

Porous materials is a kind of advance structure, which results in weight loss without degrading the special strength of body. Having these properties caused that porous productions are nowadays considered by many builders and craftsmen. In this research, the effect of porosity on the vibration absorption (damping) capacity, which is one of the most important issues in the modern automotive industry, will be examined based on powder metallurgy method. Gray cast iron was used in this research, due to the existence of graphite, which play as absorbing layers. Porous structures based on consecutive cold press and sintering procedures, with a maximum control of porosity were made. Considering the effect of porosity content on damping behavior, different volume fraction of pore former, as well as, dissimilar pressure via cold pressing were examined. It was found that, by increasing porosity to near optimum level, not only the special strength up-rises, but also, the vibration absorption increase due to enhancement of incomplete porosity. It is notable that, the improvement seen in the aforementioned mechanical properties will be widely used in various industries sensitive to damping issue, especially car bodies in the futures.

کلمات کلیدی:

Porosity, Vibration damping, Porous gray cast iron, Cold press

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