

عنوان مقاله:

.Study and comparison of sound absorption of aluminum and aluminum oxide nano-bio-composites

محل انتشار:

کنفرانس بین المللی مطالعات میان رشته ای نانو فناوری (سال: 1398)

تعداد صفحات اصل مقاله: 11

نویسندگان:

Asieh Abbasi - *Instructor of Occupational Health Engineering , Department of Occupational Health Engineering, Sirjan School of Medical Sciences, Sirjan, Iran*

Ali Jebali - *Assistant Professor of Medical Nanotechnology, Department of Laboratory Sciences, Faculty of Paramedical Sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran*

Valiollah Mandanipour - *Assistant Professor of Applied Chemistry, Department of Applied Chemistry, University of Gonabad, Gonabad, Iran*

Seyedhossein Hekmatimoghaddam - *Assistant Professor of Department of Laboratory Sciences, Faculty of Paramedical Sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran*

Abolfazl Barkhordari - *Professor of Occupational Health Engineering , Department of Occupational Health Engineering, Faculty of Health , Shahid Sadoughi University of Medical Sciences, Yazd, Iran*

خلاصه مقاله:

Background The use of acoustic materials in public and industrial places can be very effective in noise control. The aim of this study was to determine and compare the sound absorption of aluminum and aluminum oxide nano-bio-composites. **Methods** This study had an experimental – Laboratory procedure. First of aluminum and aluminum oxide particles, wood chips and glue polyvinyl acetate weight was measured the ratio of identified and well mixed. In the next step, the obtained mixture is poured into the mold Heat resistant and transferred to oven and the temperature was adjusted to 220 ° C. After the preparation of mentioned nano-bio-composites then sound absorption coefficient values were determined by acoustic impedance tube at four frequencies, 250, 500, 1000 and 2000 Hz. **Results** The Comparison between the sound absorption coefficient of four weight percentage (1, 2, 3 and 4%) of aluminum and alumina oxide nano-bio-composites indicated that the alumina oxide nano-bio-composite compared with the aluminum nano-bio-composite had the highest sound absorption coefficient of weight percentage 4% at frequency of 2000 HZ. While the all weight percentages alumina oxide and aluminum nano-bio-composites was seen the lowest sound absorption coefficient at frequency of 500 Hz. **Conclusion** For both types of nano-bio -composites, sound absorption coefficient was increased with enhancement of weight and frequency. From this study it can be concluded That alumina oxide and aluminum nano-bio-composites can be a good option for sound absorption

کلمات کلیدی:

.Nano-bio-composite, Aluminum, Alumina oxide, Sound absorption coefficient

لینک ثابت مقاله در پایگاه سیویلیکا:

