

Lateral Vibration Damping Properties of Damper Using Viscoelastic Material

by

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Abstract

The vibration system treated in this study is of a single degree of freedom, and consists of four dampers and a mass. The viscoelastic material (VEM) for vibration control using the damper is urethane resin. The vibration transmissibility and loss factor of the urethane resin are measured by forced vibration of the damping system. Then the damping system is moved by lateral forced vibration. The vibration transmissibility curves that were obtained experimentally have some influence on the excitation displacement amplitude. The loss factors calculated by the maximum transmissibility are 0.48~0.52, and the effects of excitation displacement amplitude and static stress on the loss factor are evident.

Keywords: Damping Materials, Vibration Isolation Effect, Shear Deformation, Loss Factor, Forced Vibration

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