

Technical Data Sheet

Introduction:

More and more composite materials are being used in structures to reduce weight. Sandwich panels constructed with honeycomb cores or cores of rigid plastic foam or balsa wood and glass reinforced plastic skins have been successfully used to build ships as large as minesweepers.

Cascade Audio Engineering has adapted its time proven vibration control technology to offer VB-FD, a self-contained viscoelastic layer that can be incorporated into fiberglass.

VB-FD is light in weight and the viscoelastic layer has been optimized to raise the typical sandwich panel's loss factor 5 to 10 times over a wide frequency range.

Application of VB-FD Constrained Layer Damping Foil for Fiberglass:

VB-FD consists of a sheet containing a visco-elastic compound sandwiched in the center. The sheet has a fibrous surface and contains films to protect the viscoelastic layer from chemical accelerators.

VB-FD is designed to be laminated in the center of fiberglass panels creating a composite. The best damping performance is obtained if both outer layers of the fiberglass have the same thickness, but its properties remain good for thickness ratios of up to 1:4.

VB-FD can be used in any fiber reinforced structure where reduced structure borne noise is needed. The damping effect of VB-FD is virtually independent of the thickness of the panel, so the thicknesses used should be determined entirely from cost, weight and strength requirements. Acoustic hoods and housings made from fiberglass can be mounted straight onto the machine without isolation pads which simplifies design.

VB-FD Properties:

Weight:	Approximately 1/4 oz/ft.
Thickness:	0.006"
Temperature Resistance:	-40F to 250F (-40C to 120C)
Fire Resistance:	The material is designed to be totally encapsulated by the fiberglass and thus fire resistance depends on the characteristics of the reinforced resin.

