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Kenaley et al.

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(54) **VIBRO ACOUSTIC COVER USING
EXPANDED PTFE COMPOSITE**

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(57) **ABSTRACT**

An acoustically reactive composite can include an expanded
polytetrafluoroethylene (ePTFE) membrane formed of a
highly fibrillated ePTFE microstructure with an elastomer
fully impregnated within the ePTFE membrane. The com-
posite can have an acoustic loss of less than 7 dB at 1 kHz
and a water entry pressure (WEP) of at least 20 PSI. A
layered assembly for protecting an acoustic device can
include an acoustically reactive composite as described
above and an adhesive layer arranged to define an acoustic
cavity. An acoustic device can incorporate an acoustically
reactive composite or layered assembly as described above,
with the acoustically reactive composite or layered assembly
arranged to span an acoustic cavity proximate to a trans-
ducer of the acoustic device.

20 Claims, 6 Drawing Sheets

