

A process for the preparation of prepreg based on epoxy binding agents and fiber fillers involves filler transportation, low-frequency ultrasound treatment thereof in dipping tank, and thereafter low-frequency ultrasound treatment of impregnated fiber filler. The ultrasound treatment of binding agent is carried out simultaneously in low-frequency and high-frequency ultrasound bands. The ultrasound treatment in low-frequency band is carried out at intensity of 2-3 Wt/cm<sup>2</sup>, and in high-frequency band at intensity of 15-25 Wt/cm<sup>2</sup>, amplitude of 0.001-0.003 μm, frequency of 1000-2000 kHz. The ultrasound treatment of fiber filler is carried out at intensity of 2-3 Wt/cm<sup>2</sup> for 0.5-1.0 s.