

Mechanical and thermal properties of epoxy resins modified with urethane rubber

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Abstract

In this work, epoxy and epoxyrubber polymers were prepared using four brands of epoxy resins (EA, ED-20, DEN 431, NPPN 631), two hardeners (DADFM, *iso*-MTGFA) and polyurethane rubber SKU-PFL-100. In the resulting epoxy compositions, at the contents of the rubber up to 5 wt. %, flexural modulus and glass transition temperature remain virtually unchanged. In this case, the impact viscosity of the samples increases by 15-50%. The best result by the combination of mechanical, thermal properties and impact resistance is achieved for a composition based on novolac oligomer NPPN 631, hardened by DADFM and modified with 3-5 wt. % SKU-PFL-100.