



G02.11

Super-Engineering Plastics by Reactive Blending of PPE with Polyolefin

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Reactive blending of poly(phenylene ether) with a small amount of olefin copolymer yielded a high performance engineering plastic with nice melt-processability. The extruded film and injection-molded parts showed high impact strength, low dielectric loss, high temperature resistance, and high tensile strength. It can be classified as a super-engineering plastics, such as PES, PEI, and PSU. A computer simulation revealed why the melt-processability is attained by the incorporation of polyolefin in pure PPE matrix.