

## **Property Improvements of Polymer Nanocomposites by Spherical Nanoparticles**

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The present work describes results achieved in the preparation and the mechanical behaviour of spherical nanoparticle filled polymeric nanocomposites, as manufactured by direct incorporation of the nanoscale building blocks into the resin or the thermoplastic melt.

Using different polymeric matrices it is demonstrated, that the use of ceramic nanoparticles can improve the toughness, modulus and other mechanical properties very effectively. Special emphasize is given to the interaction of these nanoparticles with traditional fillers for improving long term properties, such as creep and sliding wear.

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