BRIEF DESCRIPTION OF THE FIGURE

Figure 1 shows the flexural modulus, measured in MegaPascals (MPa), as a function of temperature for an unblended PEEK resin (example A), a miscible polyetherether ketone (PEEK)- polyetherimide (PEI) blend (example B) and two blends combining PEEK with polysulfone etherimide (PSEI) resins (examples 1 & 2). The modulus was measured as per ASTM method D5418 using dynamic mechanical methods on a 3.2 mm molded bar.

~~BRIEF DESCRIPTION OF THE INVENTION~~SUMMARY

In a first aspect, there is provided a phase separated polymer blend comprising a mixture of: a) a first resin component comprising: polyaryl ether ketones, which is present from 30-70wt% of the whole composition, with b) a second resin component comprising at least one polysulfone etherimide having greater than or equal to 50 mole% of the polymer linkages containing at least one aryl sulfone group, which is present from 70-30wt% of the whole composition, wherein the composition has at least two glass transition temperatures, wherein the first glass transition temperature is from 120°C-200°C and the second glass transition temperature is from 240°-350° C as measured by ASTM method D3418.

In a second aspect, there is provided an article made from the composition as defined above.

This disclosure~~invention~~ relates to phase separated blends of polyaryl ether ketones, polyaryl ketones, polyether ketones, polyether ether ketones and mixtures thereof with at least one polysulfone etherimide, wherein the polysulfone etherimide has greater than or equal to 50 mole% of the polymer linkages containing at least one aryl sulfone group. Such blends have improved load bearing capability at high temperature. In another embodiment,~~aspect~~ a high crystallization temperature, especially at fast cooling rates, is achieved. In such blends the presence of two separate polymeric phases is important to the improvement in properties.

DETAILED DESCRIPTION OF THE INVENTION

In this specification and in the claims that follow, reference will be made to a number of terms that shall be defined to have the following meaning. The singular forms "a", "an" and "the" include plural referents unless the context clearly dictates otherwise. "Optional" or "optionally" mean that the subsequently described event or circumstance may or may not occur, and that the description includes instances where said event or circumstance occurs and instances where it does not.

The present invention is directed to a phase separated polymer blends comprising a mixture of: a) a first resin component selected from one or more of the group comprising: polyaryl ether ketones, polyaryl ketones, polyether ketones and polyether ether ketones; with, b) a second resin component comprising at least one polysulfone