CLAIMS

1. A curable composition comprising a polymerizable material and an initiator, wherein
the polymerizable material comprises a first monomer and a second monomer,
the second monomer including a ring structure selected from a maleimide-ring, a pyrone ring, or a 2-furanone ring;
the second monomer is soluble in the first monomer, ~~and~~
the curable composition has a viscosity of not greater than 10 mPa·s,
the first monomer includes an acrylate monomer including an aromatic group;
an amount of the polymerizable material is at least 80 wt% based on a total weight of the curable composition; and
a total carbon content of the curable composition after curing is at least 74 wt%.
2. The curable composition of claim 1, wherein an amount of the second monomer is at least 2 wt% and not greater than 20 wt% based on the total weight of the curable composition.
3. The curable composition of claim 1, wherein the second monomer includes a maleimide ring structure.
4. The curable composition of claim 3, wherein the second monomer includes N-benzylmaleimide (N-BMI); N-cyclohexylmaleimide (N-CMI); N-phenylmaleimide (N-PMI); bis(3-ethyl-5-methyl-4-maleimidophenyl)methane (BEMMI); or any combination thereof.
~~5. The curable composition of claim 1, wherein the first monomer includes an acrylate-monomer.~~
~~6. The curable composition of claim 5, wherein the acrylate monomer includes an aromatic group.~~
~~7.~~5. The curable composition of claim ~~6~~1, wherein the acrylate monomer includes benzyl acrylate (BA); 1-naphthyl acrylate (1-NA); bisphenol A dimethacrylate (BPADMA); or any combination thereof.
~~8.~~6. The curable composition of claim 1, comprising at least one further monomer.
~~9.~~7. The curable composition of claim ~~1~~6, wherein the at least one further monomer includes a substituted or unsubstituted divinyl benzene (DVB).

~~10.~~8. The curable composition of claim ~~9~~7, wherein the polymerizable material comprises an aromatic acrylate monomer, a monomer including a maleimide ring, and a substituted or unsubstituted divinyl benzene (DVB).

~~11.~~9. A laminate comprising a substrate and a cured layer overlying the substrate, wherein the cured layer is made from the curable composition of claim 1~~formed by applying a layer of the curable composition of claim 1 onto the substrate and curing the curable composition~~; wherein a total carbon content of the cured layer is least 74 %, and a weight loss of the cured layer after a heat treatment at a temperature of 250°C for 90 seconds is not greater than 2.5% based on the total weight of the cured layer before the heat treatment.

~~12.~~10. The laminate of claim ~~11~~9, wherein the cured layer has a Storage Modulus of at least 4.5 GPa.

~~13.~~11. A method of manufacturing an article comprising:

applying a layer of a curable composition of claim 1 on a substrate;

bringing the curable composition into contact with a superstrate;

curing the curable composition with light or heat to form a cured layer;

removing the superstrate from the cured layer; and

processing the substrate with the cured layer to make the article.

~~14.~~12. The method of claim ~~13~~11, wherein curing comprises a conversion of at least 65% of all double bonds contained in the polymerizable material within 10 seconds.

~~15.~~13. The method of claim ~~13~~11, wherein the cured layer has a weight loss after a heat treatment at a temperature of 250°C for 90 seconds of not greater than 2.5% based on the total weight of the cured layer.