

What is claimed is:

1. A curable composition for a crosslinked foam, the curable composition comprising (A) a polyolefin component comprising an unsaturated polyolefin of the formula A^1L^1 ; (B) a curing component comprising a cross-linking agent; and (C) an additive component comprising a blowing agent, wherein:

L^1 is a polyolefin;

A^1 is selected from the group consisting of a vinyl group, a vinylidene group of the formula $CH_2=C(Y^1)-$, a vinylene group of the formula $Y^1CH=CH-$, a mixture of a vinyl group and a vinylene group of the formula $Y^1CH=CH-$, a mixture of a vinyl group and a vinylidene group of the formula $CH_2=C(Y^1)-$, a mixture of a vinylidene group of the formula $CH_2=C(Y^1)-$ and a vinylene group of the formula $Y^1CH=CH-$, and a mixture of a vinyl group, a vinylidene group of the formula $CH_2=C(Y^1)-$, and a vinylene group of the formula $Y^1CH=CH-$; and

Y^1 at each occurrence independently is a C_1 to C_{30} hydrocarbyl group.

2. A curable composition for a crosslinked foam, the curable composition comprising (A) a polyolefin component comprising a telechelic polyolefin of the formula $A^1L^1L^2A^2$; (B) a curing component comprising a cross-linking agent; and (C) an additive component comprising a blowing agent, wherein:

L^1 is a polyolefin;

A^1 is selected from the group consisting of a vinyl group, a vinylidene group of the formula $CH_2=C(Y^1)-$, a vinylene group of the formula $Y^1CH=CH-$, a mixture of a vinyl group and a vinylene group of the formula $Y^1CH=CH-$, a mixture of a vinyl group and a vinylidene group of the formula $CH_2=C(Y^1)-$, a mixture of a vinylidene group of the formula $CH_2=C(Y^1)-$ and a vinylene group of the formula $Y^1CH=CH-$, and a mixture of a vinyl group, a vinylidene group of the formula $CH_2=C(Y^1)-$, and a vinylene group of the formula $Y^1CH=CH-$;

Y^1 at each occurrence independently is a C_1 to C_{30} hydrocarbyl group;

L^2 is a C_1 to C_{32} hydrocarbylene group; and

A^2 is a hydrocarbyl group comprising a hindered double bond.

3. A curable composition for a crosslinked foam, the curable composition comprising (A) a polyolefin component comprising an unsaturated polyolefin of the formula A^1L^1 and a telechelic

polyolefin of the formula $A^1L^1L^2A^2$; (B) a curing component comprising a cross-linking agent; and (C) an additive component comprising a blowing agent, wherein:

L^1 at each occurrence independently is a polyolefin;

A^1 at each occurrence independently is selected from the group consisting of a vinyl group, a vinylidene group of the formula $CH_2=C(Y^1)-$, a vinylene group of the formula $Y^1CH=CH-$, a mixture of a vinyl group and a vinylene group of the formula $Y^1CH=CH-$, a mixture of a vinyl group and a vinylidene group of the formula $CH_2=C(Y^1)-$, a mixture of a vinylidene group of the formula $CH_2=C(Y^1)-$ and a vinylene group of the formula $Y^1CH=CH-$, and a mixture of a vinyl group, a vinylidene group of the formula $CH_2=C(Y^1)-$, and a vinylene group of the formula $Y^1CH=CH-$;

Y^1 at each occurrence independently is a C_1 to C_{30} hydrocarbyl group;

L^2 is a C_1 to C_{32} hydrocarbylene group; and

A^2 is a hydrocarbyl group comprising a hindered double bond.

4. The curable composition of claim 2 or 3, wherein the telechelic polyolefin has a weight average molecular weight from 1,000 g/mol to 1,000,000 g/mol.

5. The curable composition of claim 1 or 3, wherein the unsaturated polyolefin has a weight average molecular weight from 1,000 g/mol to 1,000,000 g/mol.

6. The curable composition of any of the previous claims, wherein the (A) polyolefin component further comprises an ethylene-based polymer.

7. The curable composition of claim 6, wherein the ethylene-based polymer is an ethylene/alpha-olefin copolymer or an olefin block copolymer.

8. The curable composition of any of the previous claims, wherein the (B) curing component comprising the crosslinking agent is present in an amount of from 0.1 wt% to 2 wt%, based on the total weight of the curable composition.

9. The curable composition of any of the previous claims, wherein the curable composition has an MH-ML of greater than or equal to 2.9 dNm after curing at 180°C for 15 minutes.
10. The curable composition of any of claims 1 and 3-9, wherein L^1 of the unsaturated polyolefin of the formula A^1L^1 is covalently bonded to A^1 through a carbon-carbon single bond.
11. The curable composition of any of claims 2-10, wherein L^1 of the telechelic polyolefin of the formula $A^1L^1L^2A^2$ is covalently bonded to each of A^1 and L^2 through carbon-carbon single bonds, and wherein L^2 of the telechelic polyolefin of the formula $A^1L^1L^2A^2$ is covalently bonded to A^2 through a carbon-carbon single bond.
12. An article made from the curable composition of any of the previous claims.
13. The article of claim 12, the article is a crosslinked foam.
14. The article of claim 13, wherein the crosslinked foam has an expansion ratio from 130% to 170%.
15. The article of claim 14, wherein the article has, in accordance with ASTM D624, a Type C tear of greater than or equal to 8.5 N/mm.