CLAIMS

What is claimed is:

1. A thermoformable base film comprising:

a first layer comprising at least one polyethylene and having an overall density between about 0.85 g/cm^3 and 0.92 g/cm^3;

a second layer comprising a high-density polyethylene and a hydrocarbon resin; and

a third layer comprising at least one polyethylene and having an overall density between about 0.92 g/cm^3 and 0.97 g/cm^3;

wherein:

the second layer is located between the first layer and the third layer; and

after thermoforming, the thermoformable base film maintains the shape taken during thermoforming.

2. The thermoformable base film according to claim 1, wherein the first layer comprises an overall density between 0.86 g/cm^3 and 0.92 g/cm^3.

3. The thermoformable base film according to claim 1, wherein the first layer comprises a polyethylene plastomer in a range of from 50% to 100%.

4. The thermoformable base film according to claim 1, wherein the first layer has a thickness comprising less than 25% of a thickness of the thermoformable base film.

5. The thermoformable base film according to claim 1, wherein the hydrocarbon resin is present from 2.5% to 30% by weight with respect to the second layer.

6. A thermoformable base film comprising:

a first layer comprising a high-density polyethylene and a polyethylene having a density less than 0.92 g/cm^3;

a second layer comprising from 60% to 90%, by weight, of a high-density polyethylene and from 2.5% to 30%, by weight of a hydrocarbon resin; and

a third layer comprising at least one polyethylene and having an overall density between about 0.92 g/cm^3 and 0.97 g/cm^3;

wherein:

the second layer is located between the first layer and the third layer; and

the second layer has a thickness that is from 15% to 95% of a thickness of the thermoformable base film.

7. The thermoformable base film according to claim 6, wherein the first layer comprises a polyethylene plastomer in a range of from 50% to 100% and a medium-density polyethylene or a high-density polyethylene in a range of from 0% to 50%, by weight.

8. The thermoformable base film according to claim 6, wherein the first layer has a thickness of less than 20 microns.

9. The thermoformable base film according to claim 6, wherein the thermoformable base film is essentially free from polyester, polypropylene, cyclic olefin copolymer, and polyamide.

10. The thermoformable base film according to claim 6, further comprising an oxygen barrier layer comprising an ethylene vinyl alcohol copolymer, wherein the oxygen barrier layer is located between the first layer and the third layer.

11. A thermoformed base comprising:

the thermoformable base film according to claim 1;

at least one cavity; and

a flange surrounding each of the cavities.

12. A packaged product comprising:

the thermoformed base according to claim 11;

a lid packaging component; and

a product;

wherein:

the lid packaging component is hermetically sealed to the flange of the thermoformed base and the product is enclosed in the at least one cavity of the thermoformed base.

13. The packaged product according to claim 12, wherein the lid packaging component comprises a heat-sealing layer and a layer comprising at least one of metal and paper.

14. The packaged product according to claim 12, wherein the thermoformed base and the lid packaging component are recyclable in the same recycle process.

15. The packaged product according to claim 12, wherein the seal strength between the thermoformed base and the lid packaging component is at least 2,000 g/25.4mm.