## CLAIMS

1. A method of forming an article, the method comprising:

(a) providing a mould having an outer part and an inner part, the outer part having a first cavity-forming surface and the inner part having a second cavity-forming surface;

(b) closing the mould thereby defining a cavity between the first and second cavity-forming surfaces wherein, at at least one region of the cavity defining an annular cross-section of the cavity between outer and inner circumferential edges of the cavity, the first cavity-forming surface is such that a distance between the first cavity-forming surface and the second cavity-forming surface alternates between a first distance and a second distance around at least a portion of a circumference of the region, the first distance being greater than the second distance;

(c) injecting a molten plastic composition comprising a polymer and a blowing agent into the cavity;

(d) allowing the molten plastic composition to form, in the said at least one region, a first solid skin adjacent to and in contact with the first cavity-forming surface and having a first circumferential length, and a second solid skin adjacent to and in contact with the second cavity-forming surface and having a second circumferential length, wherein the molten plastic composition between the first and second solid skins remains molten, to form, respectively where the distance between the first cavity-forming surface and the second cavity-forming surface alternates between the first distance and second distance, alternating first and second thicknesses of the plastic composition, each first and second thickness comprising the first and second solid skins with molten plastic composition therebetween;

(e) opening the mould before the molten plastic composition between the first and second solid skins has solidified, thus allowing the molten plastic composition between the first and second solid skins, and the molten plastic composition at the alternating first and second thicknesses of the plastic composition, to expand by foaming, wherein said opening comprises removing the outer part of the mould so that the first solid skin is no longer in contact with the first cavity-forming surface, while maintaining the second solid skin in contact with the second cavity-forming surface, wherein the molten plastic composition at the alternating first and second thicknesses of the plastic composition expands respectively to form alternating spacer regions and reinforcing areas, wherein the reinforcing areas comprise expanded cellular

foam of a density which is higher than the density of the expanded cellular foam in the spacer regions

wherein the article is a hollow article for use as a beverage cup, or as a container, the hollow article having an annular sidewall and a base wall defining a central hollow cavity, a top rim of the sidewall and a bottom end of the sidewall, wherein the annular sidewall comprises a plastics material composed of a sandwich structure of outer and inner skins respectively formed of the first and second solid skins and an expanded cellular foam layer therebetween, wherein the expanded cellular foam layer comprises an annular array of the reinforcing areas extending longitudinally along the sidewall in a direction between the top rim and the bottom end, the reinforcing areas being mutually separated by an annular array of the spacer regions extending longitudinally along the sidewall in a direction between the top rim and the bottom end to provide alternating reinforcing areas and spacer regions around the annular sidewall.

2. A method according to claim 1, wherein the expanded cellular foam in the reinforcing areas has a lower concentration of cellular voids than the expanded cellular foam in the spacer regions.

3. A method according to claim 1 or claim 2, wherein the expanded cellular foam in the reinforcing areas has a more uniform size distribution of cellular voids than the expanded cellular foam in the spacer regions.

4. A method according to any one of claims 1 to 3, wherein the expanded cellular foam in the reinforcing areas has a smaller average size of cellular voids than the expanded cellular foam in the spacer regions.

5. A method according to any one of claims 1 to 4, wherein the alternating reinforcing areas and spacer regions provide that each reinforcing area is located between opposite spacer regions and each spacer region is located between opposite reinforcing areas.

6. A method according to any one of claims 1 to 5, wherein the reinforcing areas have a width of from 0.5 to 3 mm or from 0.75 to 2 mm.

7. A method according to any one of claims 1 to 6, wherein the spacer regions have a width, in a circumferential direction around the annular sidewall, of from 0.5 to 10 mm or from 0.5 to 4 mm, or from 0.75 to 3 mm.

8. A method according to any one of claims 1 to 7, wherein the sidewall has a thickness of from 0.5 to 4 mm, or from 1 to 3 mm.

9. The method of any one of claims 1 to 9, wherein the second solid skin is maintained in contact with the second cavity-forming surface until expansion of the molten plastic composition between the first and second solid skins is complete.

10. The method of any one of claims 1 to 9, wherein the first surface comprises corrugations, the corrugations having peaks and troughs.

11. The method of claim 10, wherein (i) the corrugations are U- or V-shaped and/or (ii) the corrugations have a repeatable, or regular, sequence of peaks and troughs or a non-repeatable, or random, sequence of peaks and troughs.

12. The method of claim 11, wherein the first distance is the distance between the second cavity forming surface and a lowest point of a trough, and the second distance is the distance between the second cavity-forming surface and a highest point of a peak.

13. The method of any one of claims 1 to 12, wherein the polymer comprises a polyolefin or blend of a plurality of polyolefins, polyethylene or polypropylene; or a polyester, or polyethylene terephthalate or polybutylene terephthalate; or polylactic acid.

14. The method of claim 13, wherein polymer comprises polypropylene having a Melt Flow Index of from 10 to 120.

15. The method of any one of claims 1 to 14, wherein the blowing agent is a chemical blowing agent.

16. The method of any one of claims 1 to 15, wherein the blowing agent is a gas dissolved in the molten plastic composition.

17. The method of claim 16, wherein the gas comprises carbon dioxide or nitrogen.

18. The method of any one of claims 1 to 17, wherein the molten plastic composition further comprises a filler.

19. The method of claim 18, wherein the filler comprises calcium carbonate or chalk.