form of an inert gas is introduced into a molten resin in the first extrusion stage in illustrative embodiments.

[0007] In illustrative embodiments, an insulative cup is formed using the strip of insulative cellular non-aromatic polymeric material. The insulative cup includes a body including a sleeve-shaped side wall and a floor coupled to the body to cooperate with the side wall to form an interior region for storing food, liquid, or any suitable product. The body also includes a rolled brim coupled to an upper end of the side wall and a floor mount coupled to a lower end of the side wall and to the floor.

[0008] In illustrative embodiments, the insulative cellular non-aromatic polymeric material is configured to provide means for enabling localized plastic deformation in at least one selected region of the body (*e.g.*, the side wall, the rolled brim, the floor mount, and a floor-retaining flange included in the floor mount) to provide (1) a plastically deformed first material segment having a first density in a first portion of the selected region of the body and (2) a second material segment having a relatively lower second density in an adjacent second portion of the selected region of the body. In illustrative embodiments, the first material segment is thinner than the second material segment.

[0008a] In a first aspect of the present disclosure, there is provided a polymeric formulation comprising

50 – 99.65 wt% of a primary base resin,

0 – 50 wt% of a secondary resin,

0 – 10 wt% of a slip agent,

0 – 10 wt% of a colorant, and

0.35 – 1.5 wt% of a nucleating agent.

[0008b] In a second aspect of the present disclosure, there is provided a process for the preparation of an insulative material, the process comprising the steps of

a) providing a polymeric formulation as described herein,

b) mixing the polymeric formulation to establish a mixed formulation,

c) heating the mixed formulation to a molten state to establish a molten, mixed formulation,

d) adding at least one blowing agent to the molten, mixed formulation, and

e) extruding the formulation as an extrudate.

[0008c] In a third aspect of the present disclosure, there is provided a product obtained by the process as described herein.

[0008d] In a fourth aspect of the present disclosure, there is provided a polymeric material comprising

a) a high melt strength polypropylene base resin with long chain branching,

b) a second polymer comprising a polypropylene copolymer, polypropylene homopolymer, polyethylene, or mixtures thereof, and

c) at least two nucleating agents,

wherein the polymeric material is cellular and non-aromatic.

[0008e] In a fifth aspect of the present disclosure, there is provided an insulative container comprising

a) the polymeric material as described herein,

b) an average wall thickness of about 1.4 mm to about 1.8 mm, and

c) an average density of about 0.16 g/cm^3 to about 0.19 g/cm^3.

[0008f] In a sixth aspect of the present disclosure, there is provided a process of forming an insulative polymeric material comprising

a) blending

i) a high melt strength polypropylene base resin with long chain branching,

ii) a second polymer comprising a polypropylene copolymer, polypropylene homopolymer, polyethylene, or mixtures thereof, and

iii) at least one cell nucleating agent, to form a resin mixture,

b) heating the resin mixture,

c) adding at least one blowing agent to the resin mixture, and

d) extruding the resin mixture to form a structure having cells formed therein.

[0008g] In a seventh aspect of the present disclosure, there is provided a polymeric material comprising

a) a high melt strength polypropylene base resin with long chain branching,

b) a second polymer comprising a polypropylene copolymer, polypropylene homopolymer, polyethylene, or mixtures thereof, and

c) at least two nucleating agents,

wherein the polymeric material is cellular, non-aromatic, and has a density of about 0.05 g/cm^3 to about 0.4 g/cm^3.

[0009] Additional features of the present disclosure will become apparent to those skilled in the art upon consideration of illustrative embodiments exemplifying the best mode of carrying out the disclosure as presently perceived.

BRIEF DESCRIPTIONS OF THE DRAWINGS

[0010] The detailed description particularly refers to the accompanying figures in which:

[0011] Fig. 1 is a diagrammatic and perspective view of a material-forming process in accordance with the present disclosure showing that the material-forming process includes, from left to right, a formulation of insulative cellular non-aromatic polymeric material being placed into a hopper that is fed into a first extrusion zone of a first extruder where heat and pressure are applied to form molten resin and showing that a blowing agent is injected into the molten resin to form an extrusion resin mixture that is fed into a second extrusion zone of a second extruder where the extrusion resin mixture exits and expands to form an extrudate which is slit to form a strip of insulative cellular non-aromatic polymeric material;