

A pallet made from recycled and recyclable materials and method for manufacturing the same

EP3034423

2016-06-23

Fibreuse (BE)

The present invention is directed to a pallet at least partially made of a nonwoven composite material, said nonwoven composite material comprising: - unravelled natural fibers and/or glass fibers, and - Plastic fibers. In addition, the present invention is directed to a process for manufacturing a pallet comprising mixing unravelled natural fibers and/or glass fibers, and plastic fibers, and thermoforming said mix into a nonwoven composite material layer. It should be clear that the present invention is not only applied to any type of pallets, but also to any other type of load carriers such as boxes, cases, crates and the like.

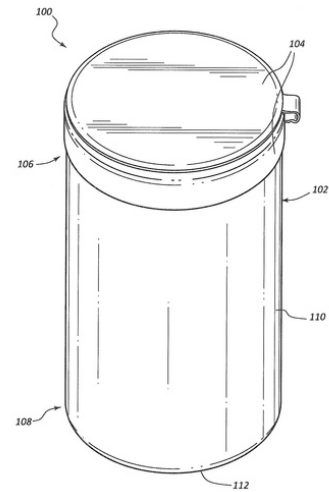
Multilayer plastic bottles with mineral filler and foamed layer for improved recyclability

US2016257440

2016-09-08

Clorox (US)

Plastic containers exhibiting reduced plastic resin usage, while maintaining a specific gravity of below 1.0, so as to allow their quick and easy separation using floatation techniques during recycling. Within a layer or portion some of the plastic resin of the container body may be replaced with an inorganic mineral filler material, while within another layer or portion of the plastic container, the plastic material (e.g., polyethylene, polypropylene) may be foamed. The fraction of mineral filler material that may be included within the polyethylene may thus be increased beyond that previously possible while maintaining the specific gravity below 1.0, by also foaming a layer or portion of the polymeric material, so as to create voids therein. This allows significantly less resin material to be employed, while maintaining strength characteristics of the plastic container so as to be at least comparable to existing plastic containers not including such mineral filler materials



Reinforced polymer composites from recycled plastic

US9309392

2016-04-12

University of Sheffield (UK)

Qatar University

The reinforced polymer composites from recycled plastic are polymer blends made from recycled polymers that are reinforced with glass fibers and mica. In particular, the reinforced polymer composites are blends of recycled low-density polyethylene (LDPE), high-density polyethylene (HDPE), and polypropylene (PP) with a mica filler that are reinforced with glass fibers, where the low-density polyethylene forms between 30 wt % and 35 wt % of the composite, the high-density polyethylene forms between 15 wt % and 17.5 wt % of the composite, the polypropylene forms between 15 wt % and 17.5 wt % of the composite, the glass fibers form between 15 wt % and 40 wt % of the composite, and the mica forms up to 15 wt % of the structural element. The resultant reinforced polymer composite has a relatively high heat deflection temperature, good mechanical properties (such as increased stiffness and strength), improved thermal stability, and is cost effective to manufacture.

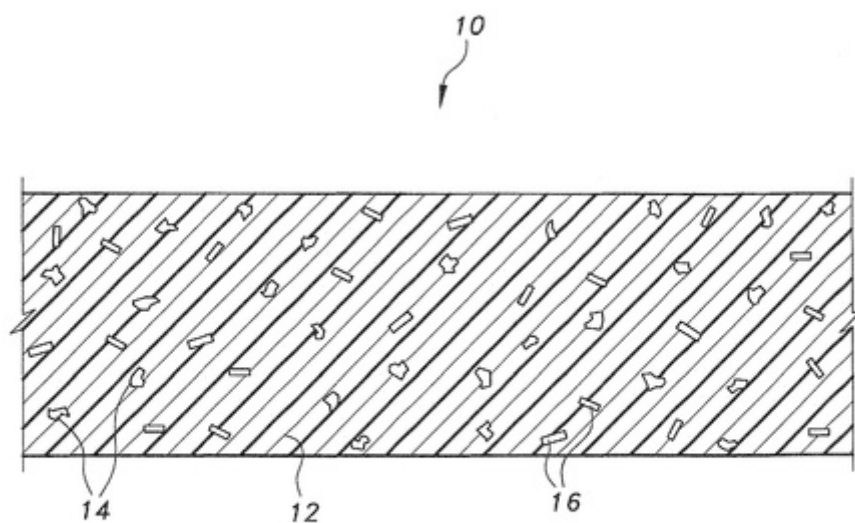


Fig. 1

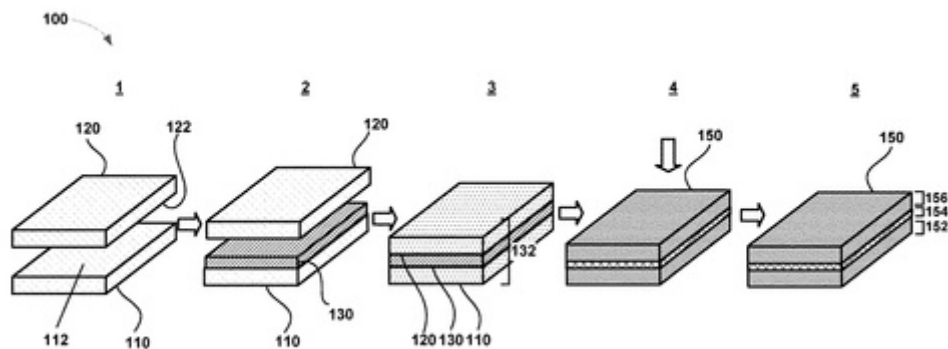
Methods for increasing impact resistance of reinforced polymeric composites

US9744699

2017-08-29

General Motors (US)

Methods of compression molding polymeric parts for improved impact resistance are provided. The components are particularly suitable for use in a vehicle or an automobile. The compression molded polymeric component comprises a central region or core comprising integrally formed foam, e.g., a foam core, that can sustain high impact load and does not lead to visible surface cracking or material cracking. The polymeric component may be a reinforced plastic composite (FRP). Such methods can produce lightweight, impact resistant, FRP components that may be used in various structural applications, including in automobiles.



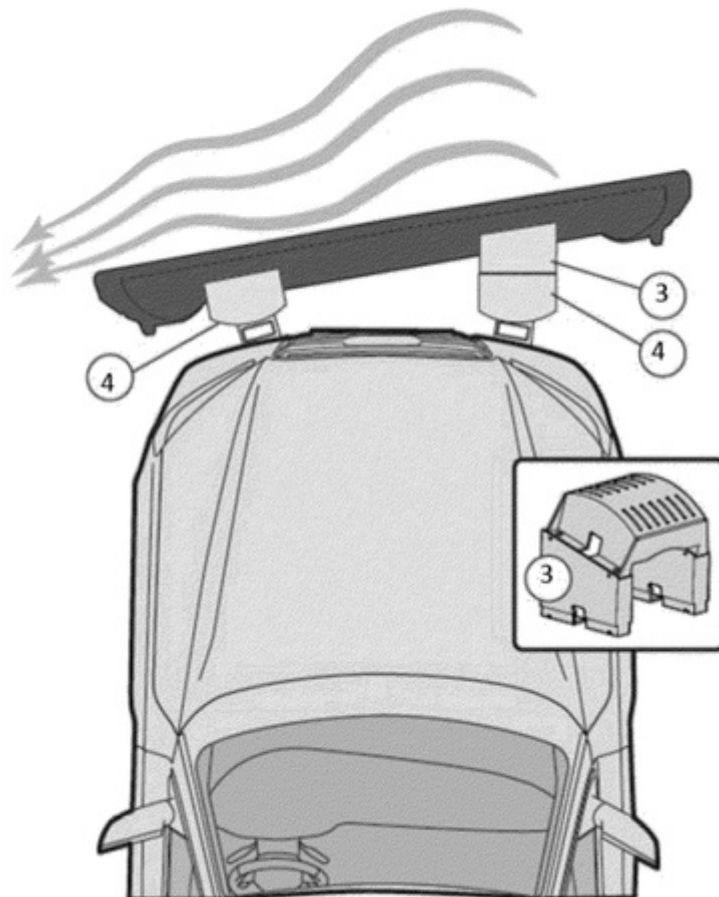
Plow for use with automobiles and other vehicles

US2016053451

2016-02-25

Nordic Auto Plow (US)

A personal use plow for pushing, but not limited to, snow and slush from one's driveway by most passenger automobiles and/or ATVs that is attached using a unique strapping and cog bracing system. The plow is made of injected molded structural foam plastic and comes in five (5) separate panels that can be easily assembled into a solid plow blade. This material is lightweight and allows for easy transportation, storage and use. When assembled, the plow can be used either in the front or back of the vehicle. The plow attaches to the vehicle by a special hook, designed as part of this patent, which attaches to the hood, trunk or luggage rack of the vehicle. All parts for the functionality of the plow are contained on the plow itself, so there are no brackets or hitches required to be attached to the bumpers of the vehicle.



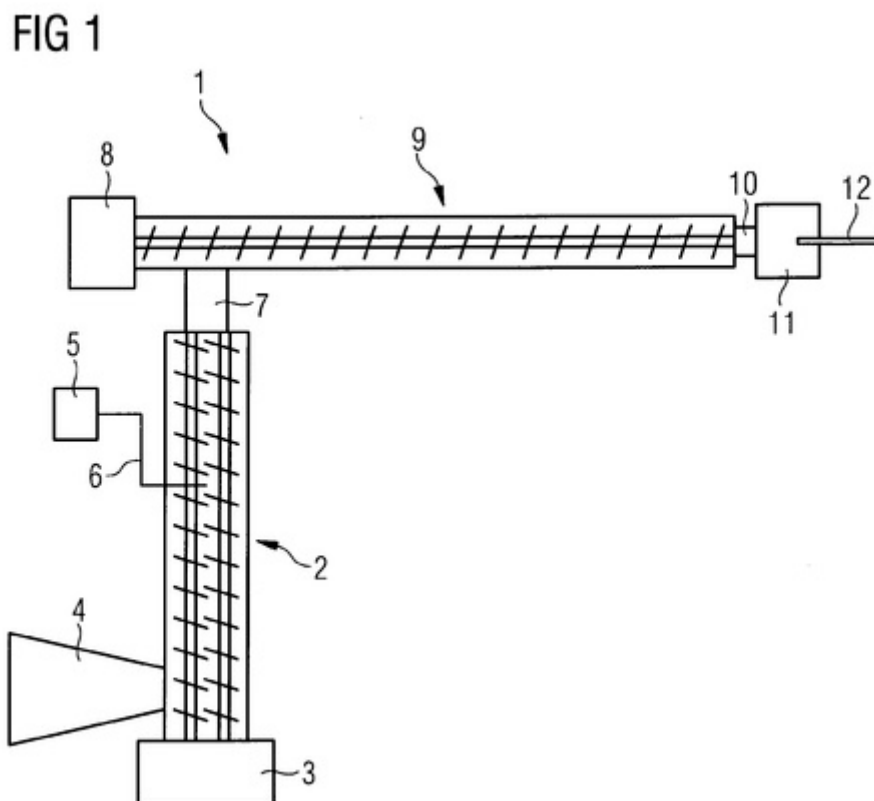
Expanded polymer pellets

EP3186306

2017-07-05

Adidas

The invention refers to a method for producing expanded polymer pellets, which comprises the following steps: melting a polymer comprising a polyamide; adding at least one blowing agent; expanding the melt through at least one die for producing an expanded polymer; and pelletizing the expanded polymer. The invention further concerns polymer pellets produced with the method as well as their use, e.g. for the production of cushioning elements for sports apparel, such as for producing soles or parts of soles of sports shoes. A further aspect of the invention concerns a method for the manufacture of molded components, comprising loading pellets of an expanded polymer material into a mold, and connecting the pellets by providing heat energy, wherein the expanded polymer material of the pellets or beads comprises a chain extender. The molded components may be used in broad ranges of application.



Thermoplastic cycloaliphatic polyamide matrix resins for next-generation energy absorbing applications

US2017044059

2017-02-16

US Army

Provided are materials that include one or more cycloaliphatic polyamides integrated into or coated onto one or more structural fibers such as polyethylene fibers, aramid-fibers, glass fibers or carbon fibers. The resulting materials may be incorporated into composite articles suitable for use as protective equipment or structural layers.

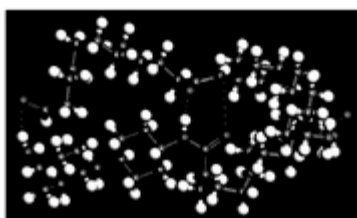


FIG. 1A

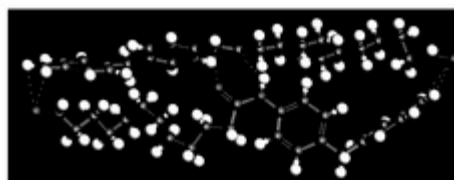


FIG. 1B

Bottle crate with split pinnacles in foamed plastic

EP3135595

2017-03-01

DW Plastics

Bottle crate comprising split pinnacles, extending upward from a bottom wall structure up to a predetermined height and defining storage spaces in the crate for storing bottles individually or in bottle packs. The split pinnacles each comprise at least two pinnacle parts which are provided for maintaining a predetermined clearance between the bottles of the predetermined type, to prevent that the bottles can contact each other, and which are spaced from each other by slots of a predetermined width for accommodating packaging material of the bottle packs. At least the bottom wall structure and the split pinnacles are part of an integrally produced unit made of foamed plastic and produced by injection moulding, the pinnacle parts having a wall thickness between 2.0 and 8.0 mm.

