What is claimed is:

1. A bonded mat comprising:

a coil web comprising first and second major oppositely-facing major surfaces,

the coil web being comprised of thermoplastic polymeric fibers with major radial surfaces, at least some of the thermoplastic polymeric fibers being porous thermoplastic polymeric fibers each comprising expanded polymeric microspheres distributed throughout the fiber and arranged such that the major radial surface of the porous thermoplastic polymeric fiber is bumpy;

and,

a porous thermoplastic polymeric backing comprising first and second oppositely-facing major surfaces,

wherein the first major surface of the coil web is bonded to the first major surface of the porous thermoplastic polymeric backing.

2. The bonded mat of claim 1 wherein the expanded polymeric microspheres are distributed throughout the interior of the porous thermoplastic polymeric fibers.

3. The bonded mat of claim 1 wherein the expanded polymeric microspheres are present in the porous thermoplastic polymeric fibers at a loading of from about 0.4% to about 2.0% by weight.

4. The bonded mat of claim 1 wherein the porous thermoplastic polymeric fibers comprise a density that is less than about 60% of the density of the thermoplastic polymeric material of the fibers, in the absence of pores.

5. The bonded mat of claim 1 wherein the porous thermoplastic polymeric fibers comprise a density that is less than about 1.0 grams per cubic centimeter.

6. The bonded mat of claim 1 wherein the porous thermoplastic polymeric fibers comprise an average diameter of from about 0.3 mm to about 1 mm.

7. The bonded mat of claim 1 wherein the expanded polymeric microspheres comprise an expanded diameter ranging on average from about 10% to about 50% of the diameter of the porous thermoplastic polymeric fibers of the coil web.

8. The bonded mat of claim 1 wherein the porous thermoplastic polymeric backing comprises a density that is less than about 60% of the density of the thermoplastic polymeric material of the backing in the absence of pores.

9. The bonded mat of claim 1 wherein the porous thermoplastic polymeric backing comprises a density that is less than about 0.8 grams per cubic centimeter.

10. The bonded mat of claim 1 wherein at least some portions of at least some of the porous thermoplastic polymeric fibers that comprise the first major surface of the coil web penetrate at least partially into the first major surface of the porous thermoplastic polymeric backing.

11. The bonded mat of claim 1 wherein the bonded mat comprises a binder that at least assists in bonding at least some of the porous thermoplastic polymeric fibers to each other at points of contact or points of adjacency between the fibers, and that at least assists in bonding at least some of the porous thermoplastic polymeric fibers to the first major surface of the porous thermoplastic polymeric backing at points of contact or points of adjacency between fibers and the first major surface of the backing.

12. The bonded mat of claim 11 wherein the porous thermoplastic polymeric fibers are comprised of plasticized poly vinyl chloride, wherein the porous thermoplastic polymeric backing is comprised of a foamed, consolidated poly vinyl chloride plastisol, and wherein the binder is comprised of a consolidated poly vinyl chloride plastisol.

13. A method for making a bonded mat, comprising:

extruding a thermoplastic polymer melt to form a coil web comprised of extruded fibers, wherein the polymer melt comprises expandable polymeric microspheres that expand during the extrusion process so as to render the extruded fibers porous and to provide the extruded fibers with a bumpy major radial surface;

forming a thermoplastic polymeric backing precursor comprising a blowing agent;

bonding a first major surface of the coil web to a first major surface of the thermoplastic polymeric backing precursor;

and,

activating the blowing agent and consolidating the thermoplastic polymeric backing precursor, so as to transform the thermoplastic polymeric backing precursor into a porous thermoplastic polymeric backing.

14. The method of claim 13 wherein the polymer melt is extruded out of a plurality of extrusion die orifices into a quench liquid and wherein the expandable polymeric microspheres are expanded during the time in which the polymer melt traverses the distance from the extrusion die orifices to the quench liquid.

15. The method of claim 13 wherein the thermoplastic polymeric backing precursor is exposed to a first elevated temperature to partially activate the blowing agent and to partially consolidate the thermoplastic polymeric backing precursor, and is then exposed to a second elevated temperature that is higher than the first elevated temperature to substantially complete the activation of the blowing agent and to substantially complete the consolidation of the thermoplastic polymeric backing precursor into the porous thermoplastic polymeric backing.

16. The method of claim 15 wherein the process comprises exposing the thermoplastic polymeric backing precursor to the first elevated temperature, then contacting the first major surface of the coil web with the first major surface of the thermoplastic polymeric backing precursor, and then exposing the thermoplastic polymeric backing precursor and the coil web to the second elevated temperature.

17. The method of claim 16 wherein a time interval is allowed between the contacting of the first major surface of the coil web with the first major surface of the thermoplastic polymeric backing precursor and the exposing of the thermoplastic polymeric backing precursor and the coil web to the second elevated temperature, the coil web and the thermoplastic polymeric backing precursor being exposed to a temperature lower than the first elevated temperature during the time interval and the time interval being sufficient to allow at least a portion of some of the fibers of the coil web to penetrate at least partially into the thermoplastic polymeric backing precursor.

18. The method of claim 13 further comprising depositing a binder into the interior of the coil web such that portions of the binder collect at points of contact or points of adjacency between some of the fibers of the coil web, and such that portions of the binder collect at points of contact or points of adjacency between fibers of the coil web and the first major surface of the thermoplastic polymeric backing precursor.

19. The method of claim 18 further comprising consolidating the binder.

CLAIMS

1. A bonded mat comprising:

a coil web comprising first and second oppositely-facing major surfaces,

the coil web being comprised of thermoplastic polymeric fibers each with a major radial surface, at least some of the thermoplastic polymeric fibers being porous thermoplastic polymeric fibers each comprising expanded polymeric microspheres distributed throughout the fiber and arranged such that the major radial surface of the porous thermoplastic polymeric fiber is bumpy;

and,

a porous thermoplastic polymeric backing comprising first and second oppositely-facing major surfaces,

wherein the first major surface of the coil web is bonded to the first major surface of the porous thermoplastic polymeric backing; and,

wherein the expanded polymeric microspheres comprise an expansion-starting temperature, and wherein the porous thermoplastic polymeric fibers are comprised of a thermoplastic material that comprises an extrusion temperature that is higher than the expansion-starting temperature of the expanded polymeric microspheres.

2. The bonded mat of claim 1 wherein the expanded polymeric microspheres are present in the porous thermoplastic polymeric fibers at a loading of from about 0.4% to about 2.0% by weight.

3. The bonded mat of claim 1 wherein the porous thermoplastic polymeric fibers comprise a density that is less than about 60% of the density of the thermoplastic polymeric material of the fibers, in the absence of pores.

4. The bonded mat of claim 1 wherein the porous thermoplastic polymeric fibers comprise a density that is less than about 1.0 grams per cubic centimeter.

5. The bonded mat of claim 1 wherein the porous thermoplastic polymeric fibers comprise an average diameter of from about 0.3 mm to about 1 mm.

6. The bonded mat of claim 1 wherein the expanded polymeric microspheres comprise an expanded diameter ranging on average from about 10% to about 50% of the diameter of the porous thermoplastic polymeric fibers of the coil web.

7. The bonded mat of claim 1 wherein the porous thermoplastic polymeric backing comprises a density that is less than about 60% of the density of the thermoplastic polymeric material of the backing in the absence of pores.

8. The bonded mat of claim 1 wherein the porous thermoplastic polymeric backing comprises a density that is less than about 0.8 grams per cubic centimeter.

9. The bonded mat of claim 1 wherein at least some portions of at least some of the porous thermoplastic polymeric fibers that comprise the first major surface of the coil web penetrate at least partially into the first major surface of the porous thermoplastic polymeric backing.

10. The bonded mat of claim 1 wherein the bonded mat comprises a binder that at least assists in bonding at least some of the porous thermoplastic polymeric fibers to each other at points of contact or points of adjacency between the fibers, and that at least assists in bonding at least some of the porous thermoplastic polymeric fibers to the first major surface of the porous thermoplastic polymeric backing at points of contact or points of adjacency between fibers and the first major surface of the backing.

11. The bonded mat of claim 10 wherein the porous thermoplastic polymeric fibers are comprised of plasticized poly vinyl chloride, wherein the porous thermoplastic polymeric backing is comprised of a foamed, consolidated poly vinyl chloride plastisol, and wherein the binder is comprised of a consolidated poly vinyl chloride plastisol.

12. The bonded mat of claim 1 wherein at least some fibers of the coil web are bonded to each other at least at some points at which the fibers contact each other.

13. The bonded mat of claim 12 where at least some of the fibers of the coil web are melt-bonded to each other.

14. The bonded mat of claim 1 wherein the porous thermoplastic polymeric backing is not permeable to liquids.

15. The bonded mat of claim 14 wherein the porous thermoplastic polymeric backing is continuous throughout its length and width and does not contain any through-holes.