CLAIMS

1. A method of making a disposable absorbent article, said method comprising:

conveying a first fabric into position to receive superabsorbent particles (SAP);

depositing superabsorbent particles on said first fabric to provide discrete aggregates of SAP free of an absorbent matrix;

conveying a second fabric such that the second fabric is moved toward the first fabric, and wherein the first fabric or the second fabric is bulky nonwoven, wherein the bulky nonwoven is a pulpless, open, fibrous network of non-absorbent and hydrophilic fibers;

positioning the second fabric relative to said first fabric such that fibers of said bulky nonwoven entangle particles of said SAP aggregate, thereby securing, at least partly, the SAP aggregate; and

bonding said first and second fabric at a network of bond sites to form a pulpless elongated absorbent core laminate having a plurality of pockets of SAP aggregate, whereby each pocket is defined about an aggregate of SAP;

conveying the elongated absorbent core laminate, whereby said bulky nonwoven and said pockets inhibit SAP particle migration from said pockets;

situating the elongated absorbent core laminate between a topsheet and a backsheet, thereby forming a core envelope of said topsheet, backsheet, and elongated absorbent core laminate, the topsheet and backsheet further providing a chassis supporting said elongated absorbent core laminate;

forming leg holes in said chassis; and

joining end regions of said chassis to form a disposable absorbent article, whereby said bulky nonwoven and said pockets inhibit SAP migration from said pockets.

2. The method of claim 1, wherein said conveying said fabric is preceded by applying an adhesive pattern on said first fabric.

3. The method of claim 2, wherein said applying adhesive includes applying adhesive in a continuous open pattern having enclosed open regions free of adhesive, and wherein said open regions have an average width smaller than an average width of said pockets.

4. The method of claim 1, wherein said bonding includes bonding said fabrics using arrangements of bond points about said aggregates of SAP to produce said pockets bounded by spaced apart bond points with gaps therebetween for fluid passage.

5. The method of claim 4, wherein the arrangements of bond points form a grid characterized by lines through the bond points directed generally laterally toward side margins of the elongated absorbent core laminate at angles less that ninety degrees from a longitudinal centerline of said elongated absorbent core laminate.

6. The method of claim 1, wherein the first fabric is the bulky nonwoven.

7. The method of claim 1, wherein the second fabric is the bulky nonwoven.

8. The method of claim 1, wherein said bulky nonwoven has a thickness between 1,000 μm to 5,000 μm, a density between 0.01 g/cc and 0.08 g/cc, a basis weight between 30 g/m^2 and 80 g/m^2, and an effective pore diameter greater than 300 μm.

9. The method of claim 1, wherein at least some of said SAP is positioned between said first and second fabrics.

10. The method of claim 1, wherein the first and second fabrics are two discrete fabrics of the elongated absorbent core laminate.

11. A method of manufacturing an absorbent composite, said method comprising:

conveying a first substrate;

delivering a mixture of superabsorbent particles (SAP) with hot melt adhesive particles onto the conveyed first substrate;

as the first substrate with said mixture is conveyed, applying heat to the first substrate, thereby activating the hot melt adhesive particles and bonding the SAP with the hot melt particles and the first substrate; and

applying a second substrate atop the first substrate and SAP layer bonded therewith to form a pulpless absorbent composite, wherein one of said first and second substrates is a bulky non-woven, wherein said bulky non-woven is a pulpless, open, fibrous network of non-absorbent and hydrophilic fibers including fibers entangling at least some of said SAP.

12. The method of claim 11, further comprising:

bonding the first substrate with the second substrate to produce an absorbent composite laminate.

13. The method of claim 12, wherein said bonding includes using heat embossing to create a bonding pattern on the absorbent composite laminate.

14. The method of claim 11, wherein the first substrate is a bulky nonwoven material.

15. The method of claim 11, wherein said mixture comprises from 1 to 10% hot melt adhesive by weight.

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16. A method of manufacturing an absorbent composite laminate for use in a disposable absorbent article, the method comprising:

conveying a first fabric into position to receive superabsorbent particles (SAP);

depositing SAP on said first fabric to provide discrete aggregates of SAP on the first fabric;

conveying a second fabric;

applying the second fabric onto said first fabric such that said discrete aggregates of SAP are positioned between said first and second fabrics to form a pulpless absorbent composite laminate; and

wherein one of said first and second fabrics is a bulky non-woven, wherein said bulky non-woven is a pulpless, open, fibrous network of non-absorbent and hydrophilic fibers including fibers entangling at least some of said SAP.

17. The method of claim 16, further comprising pockets defined between said first and second fabrics, wherein said discrete aggregates of SAP are positioned within said pockets, and said bulky non-woven includes fibers extending into said pockets and entangling at least some of said SAP within said pockets.

18. The method of claim 16, wherein said second fabric is the bulky non-woven, said bulky non-woven entangling particles in a top layer of particles of the aggregates of SAP, thereby securing, at least partly, the aggregates of SAP between the first and second fabrics.

19. The method of claim 16, wherein said first fabric is the bulky non-woven.

20. The method of claim 16, wherein said bulky nonwoven has a thickness between 1,000 μm to 5,000 μm, a density between 0.01 g/cc and 0.08 g/cc, a basis weight between 30 g/m^2 and 80 g/m^2, and an effective pore diameter greater than 300 μm.

21. The method of claim 16, wherein said aggregates of SAP are pulpless and free of an absorbent matrix.