

CLAIMS

WHAT IS CLAIMED IS:

1. A unitary negative pressure wound dressing construct comprising:
 - an absorbent layer having a first surface for contacting a wound and a second surface opposite the first surface, the absorbent layer comprising a gelling absorbent material, wherein the absorbent layer has a perimeter border,
 - a cover layer having a first surface facing the absorbent layer and a second surface opposite the first surface, wherein the cover layer has a perimeter border having dimensions greater than dimensions of the absorbent layer perimeter such that the perimeter border of the cover layer extends beyond the perimeter border of the absorbent layer, and
 - a peripheral adhesive skin contact layer attached to the first surface of the absorbent layer adjacent the perimeter border of the absorbent layer, wherein the peripheral adhesive skin contact layer defines a window through which the absorbent layer is able to contact the wound, and wherein the peripheral adhesive skin contact layer comprises a hydrocolloid adhesive,
 - wherein the peripheral adhesive skin contact layer has a perimeter border having dimensions greater than the dimensions of the absorbent layer perimeter such that the perimeter border of the peripheral adhesive skin contact layer extends beyond the perimeter border of the absorbent layer,
 - wherein the perimeter border of the cover layer and the perimeter border of the peripheral skin contact layer are bonded together to form a seal,
 - wherein the peripheral adhesive skin contact layer is operable to adhere to skin surrounding a wound, and
 - wherein the cover layer defines an aperture configured for connection to a source of negative pressure.
2. The dressing of claim 1, wherein the dimensions of the perimeter border of the absorbent layer are greater than dimensions of a wound to be covered by the dressing.
3. The dressing of claim 1, wherein the cover layer is water impermeable and air and vapour permeable.
4. The dressing of claim 1, wherein the peripheral adhesive skin contact layer and the cover layer are operable to form an air-tight seal between the absorbent layer and an external environment

of the dressing when the dressing is applied over a wound and a source of negative pressure is sealingly connected to the aperture.

5. The dressing of claim 1, wherein the peripheral adhesive skin contact layer has a thickness of from about 0.1 mm to about 5 mm.

6. The dressing of claim 1, wherein the peripheral adhesive skin contact layer has a width of from about 2 cm to about 6 cm.

7. The dressing of claim 1, further comprising a first bonding layer positioned between the absorbent layer and the cover layer.

8. The dressing of claim 7, wherein the first bonding layer comprises a layer of hydrocolloid adhesive.

9. The dressing of claim 7, wherein the first bonding layer has a thickness of from about 0.2 mm to about 2 mm.

10. The dressing of claim 1, further comprising:

a structural layer corresponding to the peripheral adhesive skin contact layer and having a first surface bonded to the peripheral adhesive skin contact layer, and

a second bonding layer corresponding to the peripheral adhesive skin contact layer and positioned in contact with a second surface of the structural layer that is opposite the first surface of the structural layer,

wherein the structural layer is positioned between, and sealingly bonded to, the peripheral adhesive skin contact layer and the second bonding layer, and

wherein the second bonding layer is sealingly bonded to a continuous portion of the first surface of the absorbent layer that is adjacent the full perimeter border of the absorbent layer.

11. The dressing of claim 10, wherein the peripheral adhesive skin contact layer, the second bonding layer and the cover layer are operable to form an air-tight seal between the absorbent layer and an external environment of the dressing when the dressing is applied over a wound and a source of negative pressure is sealingly connected to the aperture.

12. The dressing of claim 10, wherein the structural layer comprises a polyurethane film.

13. The dressing of claim 10, wherein the second bonding layer has a thickness of from about 0.2 mm to about 2 mm.

14. The dressing of claim 1, further comprising:

a first bonding layer positioned between the absorbent layer and the cover layer,

a structural layer corresponding to the peripheral adhesive skin contact layer and having a first surface bonded to the adhesive skin contact layer, and

a second bonding layer corresponding to the peripheral adhesive skin contact layer and positioned in contact with a second surface of the structural layer that is opposite the first surface of the structural layer,

wherein the structural layer is positioned between, and sealingly bonded to, the peripheral adhesive skin contact layer and the second bonding layer, and

wherein the second bonding layer is sealingly bonded to a continuous portion of the first surface of the absorbent layer that is adjacent the full perimeter border of the absorbent layer.

15. The dressing of claims 1, wherein the gelling absorbent material comprises a gel-forming fiber or filament.
16. The dressing of claim 15, wherein the gel-forming fiber or filament comprising chemically-modified cellulose, alginate, carboxymethyl cellulose, or combinations thereof.
17. The dressing of claim 15, wherein the absorbent layer comprises stitches.
18. The dressing of claim 1 wherein the absorbent layer further comprises an antimicrobial agent.
19. The dressing of claim 1, wherein the cover layer comprises a member selected from the group consisting of a polyurethane (PU), a polyvinyl chloride (PVC), a silicone elastomer, a fluoropolymer, and combinations thereof.
20. The dressing of claim 1, further comprising a source of negative pressure sealingly connected to the aperture and in fluid communication with the absorbent layer.
21. The dressing of claim 20, wherein the source of negative pressure comprises a pump connected to the aperture with a conduit.
22. The dressing of claim 1, further comprising a negative pressure distribution layer positioned between the absorbent layer and the cover layer.
23. The dressing of claim 22, wherein the negative pressure distribution layer comprises an open cell foam layer.
24. The dressing of claim 23, wherein the open cell foam layer is hydrophobic.
25. The dressing of claim 1, further comprising a connector attached to the cover layer over the aperture and configured for connection to a conduit to communicate negative pressure from the conduit to the wound through the aperture.

26. The dressing of claim 25, wherein the connector comprises polyurethane or polyvinylchloride.
27. The dressing of claim 25, wherein the connector comprises a change indicator.
28. A disposable negative pressure wound therapy device, comprising:
a disposable pump for generating negative pressure, and
a dressing for covering and protecting a wound, the dressing comprising:
an absorbent layer having a first surface for contacting a wound and a second surface opposite the first surface, the absorbent layer comprising a gelling absorbent material, wherein the absorbent layer has a perimeter border having dimensions greater than the dimensions of a wound to be covered by the dressing,
a cover layer having a first surface facing the absorbent layer and a second surface opposite the first surface, wherein the cover layer is water impermeable and air permeable, wherein the cover layer has a perimeter border having dimensions at least as great as the dimensions of the absorbent layer perimeter, and wherein a portion of the cover layer adjacent the perimeter of the cover layer is bonded to a portion of the absorbent layer adjacent the perimeter border of the absorbent layer, and
a peripheral adhesive skin contact layer attached to the first surface of the absorbent layer adjacent the perimeter border of the absorbent layer, wherein the peripheral adhesive skin contact layer defines a window through which the absorbent layer is able to contact the wound, and wherein the peripheral adhesive skin contact layer comprises a hydrocolloid adhesive,
wherein the cover layer defines an aperture connected to the pump.
29. The device of claim 28, further comprising a conduit defining a lumen that provides fluid communication between the pump and the aperture defined in the cover layer of the dressing, whereby operation of the pump creates negative pressure at the site of a wound when the dressing is affixed over the wound by pressure sealing the peripheral adhesive skin contact layer to skin surrounding the wound.