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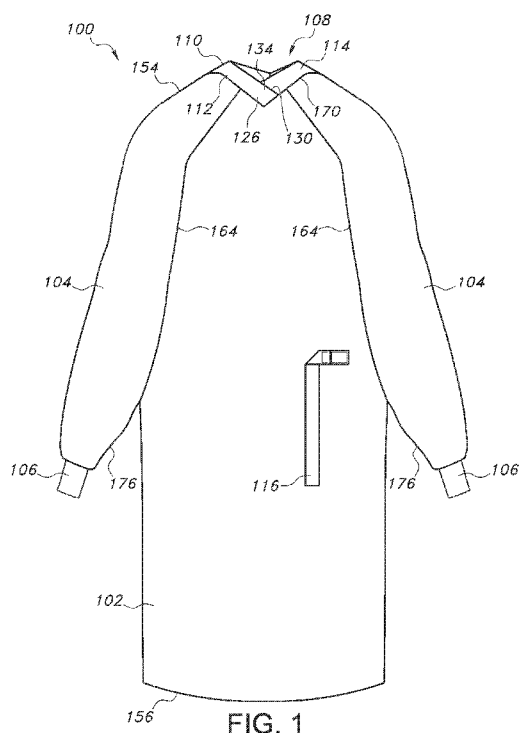
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(54) Title: DISPOSABLE SURGICAL GOWN



(57) Abstract: A disposable surgical gown (100) is provided. The gown includes a front panel (102) and sleeves (104) formed from a first spunbond layer, a nonwoven (e.g., SMS) laminate, and a liquid impervious, moisture vapor breathable elastic film disposed therebetween. The gown also includes a first and second rear panels (120, 122) formed from a nonwoven laminate that is air breathable and allows for an air volumetric flow rate ranging from about 20 standard cubic feet per minute (scfm) to about 80 scfm. The gown further includes a collar (110) formed from an air breathable knit material positioned adjacent a proximal end of the gown. The collar defines a neck opening having a v-neck shape adjacent the front panel. The v-neck shape forms an angle of greater than 90° at the neck opening. The combination of features results in a gown that is stretchable and impervious to liquids, yet can still dissipate heat and humidity.

WHAT IS CLAIMED IS:

1. A disposable surgical gown, the disposable surgical gown comprising:
a front panel, a first sleeve, and a second sleeve, wherein the front panel, the first sleeve, and the second sleeve each comprise an outer spunbond layer having a surface that defines an outer-facing surface of the front panel, a spunbond-meltblown-spunbond (SMS) laminate having a surface that defines a body-facing surface of the front panel, and a liquid impervious, moisture vapor breathable elastic film disposed therebetween, wherein the elastic film meets the requirements of ASTM-1671;

a first rear panel and a second rear panel, wherein the first rear panel and the second rear panel are formed from a nonwoven laminate that is air breathable and allows for an air volumetric flow rate ranging from about 20 standard cubic feet per minute (scfm) to about 80 scfm; and

a collar formed from an air breathable knit material and positioned adjacent a proximal end of the gown, wherein the collar defines a neck opening, wherein the collar has a v-neck shape at an area adjacent the front panel, further wherein the v-neck shape forms an angle of greater than 90° at the neck opening.

2. The disposable surgical gown of claim 1, wherein the elastic film includes a core layer disposed between a first skin layer and a second skin layer.

3. The disposable surgical gown of claim 2, wherein the core layer comprises polypropylene and the first skin layer and the second skin layer each comprise a copolymer of polypropylene and polyethylene.

4. The disposable surgical gown of any of the preceding claims, wherein the elastic film has a basis weight ranging from about 5 gsm to about 50 gsm.

5. The disposable surgical gown of claim 2, wherein the core layer includes a fluorochemical additive.

6. The disposable surgical gown of claim 5, wherein the fluorochemical additive is present in the core layer in an amount ranging from about 0.1 wt.% to about 5 wt.% based on the total weight of the core layer.

7. The disposable surgical gown of claim 2, wherein the core layer includes a filler.

8. The disposable surgical gown of claim 7, wherein the filler is present in the core layer in an amount ranging from about 50 wt.% to about 85 wt.% based on the weight of the core layer.

9. The disposable surgical gown of any one of the preceding claims, wherein the outer spunbond layer and the SMS laminate include a semi-crystalline polyolefin.

10. The disposable surgical gown of claim 9, wherein the semi-crystalline polyolefin includes a copolymer of propylene and ethylene, wherein the ethylene is present in an amount ranging from about 1 wt.% to about 20 wt.%.

11. The disposable surgical gown of any one of the preceding claims, wherein the outer spunbond layer has a basis weight ranging from about 5 gsm to about 50 gsm and the SMS laminate has a basis weight ranging from about 10 gsm to about 60 gsm.

12. The disposable surgical gown of any one of the preceding claims, wherein the outer spunbond layer and the SMS laminate each include a slip additive.

13. The disposable surgical gown of claim 12, wherein the slip additive comprises erucamide, oleamide, stearamide, behenamide, oleyl palmitamide, stearyl erucamide, ethylene bis-oleamide, N,N'-Ethylene Bis(Stearamide) (EBS), or a combination thereof.

14. The disposable surgical gown of claim 12 or 13, wherein the slip additive is present in the outer spunbond layer in an amount ranging from about 0.1 wt.% to about 4 wt.% based on the total weight of the outer spunbond layer, and wherein the slip additive is present in a layer of the SMS laminate in an amount ranging from about 0.25 wt.% to about 6 wt.% based on the total weight of the layer.

15. The disposable surgical gown of any one of the preceding claims, wherein the first rear panel and the second rear panel each comprise a SMS laminate.

16. The disposable surgical gown of claim 15, wherein the first rear panel and the second rear panel each have a basis weight ranging from 20 gsm to about 80 gsm.

17. The disposable surgical gown of any one of the preceding claims, wherein the first rear panel and the second rear panel include a slip additive.

18. The disposable surgical gown of claim 17, wherein the slip additive comprises erucamide, oleamide, stearamide, behenamide, oleyl palmitamide, stearyl erucamide, ethylene bis-oleamide, N,N'-Ethylene Bis(Stearamide) (EBS), or a combination thereof.

19. The disposable surgical gown of claim 17 or 18, wherein the slip additive is present in the first rear panel and the second rear panel in an amount ranging from about 0.25 wt.% to about 6 wt.% based on the total weight of each spunbond layer in the SMS laminate of the first rear panel and the second rear panel.

20. The disposable surgical gown of any one of the preceding claims, wherein the collar comprises a polyester.

21. The disposable surgical gown of any one of the preceding claims, wherein the collar has a first tapered portion adjacent an edge of the first rear panel and a second tapered portion adjacent an edge of the second rear panel.

22. The disposable surgical gown of any one of the preceding claims, wherein the collar is sewn to the front panel, first sleeve, second sleeve, first rear panel, and second rear panel with a polyester thread.

23. The disposable surgical gown of any one of the preceding claims, where the front panel, the first sleeve, the second sleeve, the first rear panel, the second rear panel, or a combination thereof are a sufficient shade of gray to reduce glare.

24. The disposable surgical gown of any one of the preceding claims, wherein the front panel, the first sleeve, the second sleeve, the first rear panel, the second rear panel, or a combination thereof include a carbon black pigment and titanium dioxide.

25. The disposable surgical gown of any one of the preceding claims, wherein the disposable surgical gown exhibits an opacity of greater than about 98%.

26. The disposable surgical gown of any one of the preceding claims, wherein the disposable surgical gown exhibits a light transmittance of less than about 0.1.