

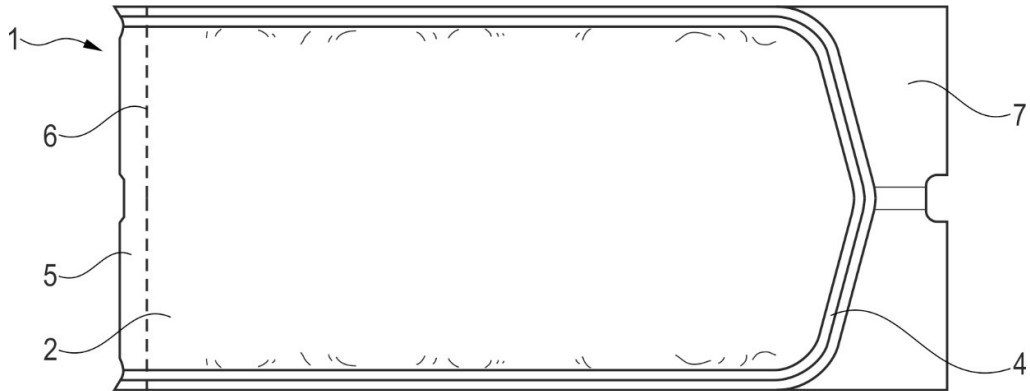


FIG. 1

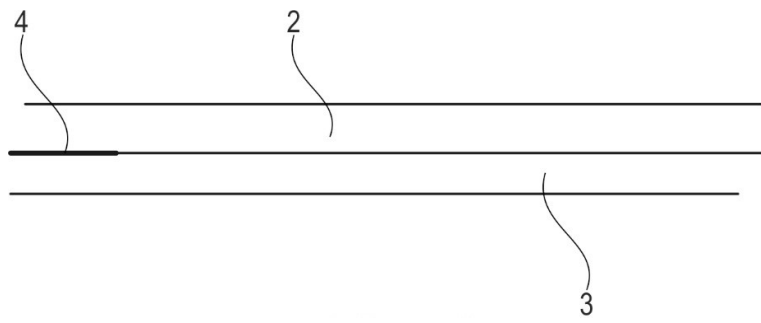


FIG. 2

Physical properties of the PP-based nonwoven films								
		0.05% TiO ₂	0.19% TiO ₂	0.27% TiO ₂	0.50% TiO ₂	0.8% TiO ₂	1.5% TiO ₂	2% TiO ₂
		mean	mean	mean	mean	mean	mean	mean
Tensile strength [kN/m]	Machine direction	4.5	6.2	3.5	3.4	3.2	1.9	0.8
	Cross direction	4.6	3.4	3	2.9	2.8	1.7	0.9
Elongation [%]	Machine direction	61.5	40.7	32.3	29.2	25.3	17.2	11.2
	Cross direction	133	34.5	28.2	27.2	24.3	18.2	12.5
Tear [mN]	Machine direction	13522	3041	8263	8560	5523	2342	1621

FIG. 3

Amount of TiO ₂ [%]	Sealing temperature [°C]	Sealing force [N/15mm] (5×15 cm ² coupon)	Imprint on the nonwoven after opening (5×15 cm ² coupon and pouch of Figure 1)	Sensation on opening (5×15 cm ² coupon and pouch of Figure 1)	Comments
0% TiO₂	150	3.1	Transparency	Moderate – some raising of fibers	Non-aseptic opening
	155	3.4	Transparency	Poor – raising of fibers	Non-aseptic opening
	160	4.0	Transparency	Poor – raising of fibers	Non-aseptic opening
0.05% TiO₂	150	3.1	Transparency	Moderate – some raising of fibers	Non-aseptic opening
	155	3.6	Transparency	Poor - tearing	Non-aseptic opening
	160	4.1	Transparency	Poor - tearing	Non-aseptic opening
0.19% TiO₂	150	1.9	Good, white and homogeneous	Good	Bacterial barrier OK (according to ASTM F2101) LRV OK (according to ASTM F1608) Compliant with EN 868 (part 5 and part 9)
	155	2.5	Good, white and homogeneous	Good	
	160	2.9	Good, white and homogeneous	Good	
0.27% TiO₂	150	1.9	Good, white and homogeneous	Good	
	155	2.3	Good, white and homogeneous	Good	
	160	2.7	Good, white and homogeneous	Good	
0.50% TiO₂	150	1.8	Good, white and homogeneous	Good	
	155	2.1	Good, white and homogeneous	Good	
	160	2.4	Good, white and homogeneous	Good	
0.80% TiO₂	150	1.8	Good, white and homogeneous	Good	
	155	1.8	Good, white and homogeneous	Good	
	160	2.1	Good, white and homogeneous	Good	
1.5% TiO₂	150	1	Non-homogeneous	Poor	Not compliant with EN 868 part 5 Poor sealing strength
	155	1.1	Non-homogeneous	Poor	
	160	1.2	Non-homogeneous	Poor	

FIG. 4