CLAIMS

1. A process for extruding a multi-layered extrudate, comprising:

supplying respective melt streams of a barrier composition and first and second adhesive compositions, wherein the first and second adhesive compositions are the same or different and the melt stream of the barrier composition is supplied at a temperature of from 210ºC to 260ºC, the melt stream of the first adhesive composition is supplied at a temperature less than 210ºC, and the melt stream of the second adhesive composition is supplied at a temperature less than 180ºC;

coextruding the melt streams to form ~~a~~ the multi-layered extrudate comprising a plurality of layers comprising an adhesive layer, a sublayer and a barrier layer;

wherein the barrier composition comprises a dynamically vulcanized thermoplastic elastomer composition present in one or more plies of the barrier layer; and

wherein the sublayer comprises a first ply formed from the melt stream of the first adhesive composition, wherein the adhesive layer comprises a second ply formed from the melt stream of the second adhesive composition, wherein the first ply adhesively joins the barrier layer and the second ply, and wherein the second ply is vulcanizable with a diene-based rubber.

~~2. The process of claim 1, wherein the melt stream of the barrier composition is supplied at a temperature of from 210ºC to 260ºC, wherein the melt stream of the first adhesive composition is supplied at a temperature less than 210ºC, and wherein the melt stream of the second adhesive composition is supplied at a temperature less than 180ºC.~~

~~3.~~2. The process of claim 1 ~~or 2~~, wherein the melt stream of the first adhesive composition is supplied at a temperature greater than the temperature of the melt stream of the second adhesive composition.

4.3. The process of any one of claims 1 to 3 2, wherein following the extrusion, the sublayer is at least partially cured and the adhesive layer is undercured.

5.4. The process of any one of claims 1 to 4 3, further comprising:
introducing the melt streams onto a mandrel in a die stack in a sequence
wherein the melt stream of the barrier composition is introduced onto the mandrel, the melt stream of the first adhesive composition onto the barrier composition steam, and the melt stream of the second adhesive composition onto the first adhesive composition stream.

6.5. The process of any one of claims 1 to 5 4, wherein the thermoplastic elastomer composition in the barrier layer comprises a thermoplastic resin comprising a polyamide, as a continuous phase, and a rubber composition dispersed therein, as a dispersed phase, wherein the rubber composition comprises a halogenated polymer of a C_4 to C_7 isoolefin.

7.6. The process of any one of claims 1 to 6 5, wherein the adhesive layer comprises a vulcanization cure package.

8.7. The process of any one of claims 1 to 7 6, wherein the sublayer is free of the vulcanization cure package or comprises less vulcanization cure package than the adhesive layer.

9.8. The process of any one of claims 1 to 8 7, wherein the first adhesive composition comprises a total of 100 parts by weight of a thermoplastic elastomer component and from 30 to 200 parts by weight of a tackifier component.

10.9. The process of any one of claims 1 to 9 8, wherein the second adhesive composition comprises a total of 100 parts by weight of a thermoplastic elastomer component, from 30 to 200 parts by weight of a tackifier component, and from 0.1 to 15 parts by weight of a vulcanization cure package per 100 parts by weight of the thermoplastic elastomer component.

~~11.~~10. The process of any one of claims 1 to ~~10~~ 9, further comprising incorporating the laminated extrudate into a tire as an innerliner.

~~12.~~11. A laminate comprising the laminated extrudate produced according to the process of any one of claims 1 to ~~10~~ 9, wherein the barrier layer is dynamically vulcanized and the adhesive layer is co-curable with diene-based rubber.

~~13.~~12. A pneumatic tire produced according to the process of claim ~~11~~ 10, wherein the adhesive layer of the laminated extrudate is co-cured with a rubber.

~~14. A laminate, comprising:~~

~~a plurality of layers comprising an adhesive layer, a sublayer and a barrier layer;~~

~~wherein the barrier layer comprises a dynamically vulcanized thermoplastic elastomer composition present in one or more plies of the barrier layer;~~

~~wherein the sublayer comprises a first ply of a first adhesive composition adhesively joining the barrier layer and a second ply;~~

~~wherein the adhesive layer comprises the second ply formed of a second adhesive composition, wherein the second ply is vulcanizable with diene-based rubber, wherein the adhesive layer and the sublayer have a total thickness of from 5 to 200 microns.~~

~~15. The laminate of claim 14, wherein the thermoplastic elastomer composition in the barrier layer comprises a thermoplastic resin comprising a polyamide, as a continuous phase, and a rubber composition dispersed therein, as a dispersed phase, wherein the rubber composition comprises a halogenated copolymer of isobutylene and paramethylstyrene.~~