CLAIMS:

We claim:

1. A tire innerliner comprising a dynamically vulcanized alloy of an elastomer and an engineering resin, wherein the innerliner is contoured such that the thickness of the innerliner at the thickest and thinnest parts differ by more than 25%,

wherein the tire innerliner has a centerline and opposing edges and wherein the tire innerliner has a gauge at the centerline that is greater than the gauge at the edge, and

wherein the greater gauge of the tire innerliner at the centerline extends from each side of the center by a distance of 15.0% to 40.0% of the innerliner width.

~~2. The tire innerliner of claim 1, wherein the tire innerliner has a centerline and opposing edges and wherein the tire innerliner has a gauge at the centerline that is greater than the gauge at the edge.~~

~~3.~~2. The tire innerliner of ~~either~~ claim 1 ~~or 2~~, wherein the centerline to edge gauge ratio of the ~~tire~~ innerliner is ~~about~~ 2.5:1.0.

~~4. The tire innerliner of any one of claims 1 to 3, wherein the tire innerliner has a pair of shoulder areas having a gauge in each shoulder area that is greater than the gauge at the innerliner centerline, a central portion between the shoulder areas having a width of 25% to 40% of the innerliner width and each shoulder area having a width of 10% to 25% of the innerliner width.~~

~~5. The tire innerliner any one of claims 1 to 4, wherein the shoulder to centerline gauge ratio of the innerliner is about 2.5:1.0.~~

3. The tire innerliner of claim 1, wherein the elastomer is a functionalized poly(isobutylene-*co*-alkylstyrene) and the engineering resin is nylon.

~~6.~~4. The tire innerliner of ~~any one of claims~~ claim 1 ~~to 5~~, wherein the thickness at the edge is within the range of from about 10 to 500 μm.

~~7. The tire innerliner of claim 1, wherein the elastomer is a functionalized poly(isobutylene-*co*-alkylstyrene) and the engineering resin is nylon.~~

~~8.~~5. A tire comprising the tire innerliner of claim 1.

~~9.~~6. A method of making a tire innerliner comprising:

(a) providing an extruded or blown film of substantially uniform gauge,

(b) ~~providing~~ stretching the extruded or blown film to form a contoured tire innerliner, wherein the tire innerliner comprises a dynamically vulcanized alloy of an elastomer and engineering resin, characterized in that the tire innerliner is contoured such that the thickeness of the innerliner at the thickest and thinnest parts differ by more than 25%.

~~10. The method of claim 9, wherein the tire innerliner comprises a cast film.~~

~~11. The method of claim 9 or 10, further comprising:~~

~~(i) extruding the dynamically vulcanized alloy; and~~

~~(ii) calendering the extruded dynamically vulcanized alloy, thereby providing the tire innerliner.~~

~~12. The method of any one of claims 9 to 11, wherein the tire innerliner comprises a non-uniformly stretched sleeve.~~

~~13. The method of any one of claims 9 to 12, further comprising:~~

~~(i) providing a seamless tire innerliner, having a substantially uniform gauge, the seamless tire innerliner being in the form of a sleeve,~~

~~wherein the seamless tire innerliner comprises a dynamically vulcanized alloy of an elastomer and an engineering resin;~~

~~(ii) subjecting the seamless tire innerliner to stretching in at least one of the radial and axial directions; and~~

~~(iii) producing a contoured tire innerliner.~~

~~14. The method of any one of claims 9 to 13, wherein the seamless tire innerliner comprises a blown film.~~

~~15. The method of any one of claims 9 to 13, wherein the stretching of step (ii) takes place on a heated expandable drum.~~

~~16.~~7. The method of claim ~~9~~ 6, wherein the tire innerliner has a centerline and opposing edges, wherein the gauge at the centerline is greater than the gauge at the edge.

8. The method of claim 6, wherein the elastomer is a functionalized poly(isobutylene-*co*-alkylstyrene) and the engineering resin is nylon.

~~17.~~9. The method of claim ~~16~~ 6, wherein the contoured tire innerliner has a ratio of thickness at the centerline to thickness at the edge of about 2.5:1.0.

~~18. The method of claim 9, wherein the tire innerliner has a shoulder region at a distance, measured from the centerline, between 40% and 60% of the maximum belt width and the tire innerliner has a gauge at the shoulder region that is greater than the gauge at the centerline.~~

~~19. The method of claim 18, wherein the tire innerliner has a ratio of thickness at the shoulder to thickness at the centerline of about 2.5:1.0.~~

~~20.~~10. The method of claim ~~9~~ 6, wherein the thickness at the edge of the tire innerliner is in the range of from about 10 to 500 μm.

~~21. The method of claim 9, wherein the elastomer is a functionalized poly(isobutylene-*co*-alkylstyrene) and the engineering resin is nylon.~~

~~22. A method of increasing the diameter of a seamless tire innerliner comprising stretching the seamless tire innerliner radially, wherein the seamless tire innerliner comprises a dynamically vulcanized alloy of an elastomer and an engineering resin.~~

11. The method of claim 6, wherein the stretching of step (b) takes place on a heated expandable drum.

12. The method of claim 6, wherein the tire innerliner comprises a non-uniformly stretched sleeve.

13. The method of claim 6, wherein the provided extruded or blown film is in the form of a sleeve, and the stretching is in at least one of the radial or axial directions.