CLAIMS

What is claimed is:

1. A belt comprising a tensile cord embedded in the belt, extending in a longitudinal direction and comprising two components: a tensile component and a sacrificed component.

2. The belt of claim 1 wherein said sacrificed component provides essentially no significant contribution to the breaking strength of the belt, and said tensile component provides most of the longitudinal tensile reinforcement of the belt.

3. The belt of claim 2 wherein said sacrificed component consists of a plurality of discontinuous segments.

4. The belt of claim 3 wherein said sacrificed component consists of a yarn or mono-filament, broken into a plurality of segments.

5. The belt of claim 4 wherein said tensile cord is a covered yarn having a core and a cover with said sacrificed component as the core and said tensile component as the cover.

6. The belt of claim 2 wherein said sacrificed component consists of a yielded material resulting in a plurality of substantially weakened sections distributed longitudinally throughout the tensile cord.

7. The belt of claim 2 wherein said sacrificed component consists of a melted material.

8. The belt of claim 1 wherein said two components comprise yarns, the tensile component comprising one or more continuous filament yarns of high modulus fibers, and the sacrificed component comprising a second yarn which is broken into a plurality of yarn segments of substantially similar length distributed longitudinally throughout the tensile cord.

9. The belt of claim 1 wherein the elongation at break of said tensile component is greater than that of said sacrificed component by at least a factor of two.

10. The belt of claim 1 wherein the volume of said sacrificed component relative to the total tensile cord volume is 20% or less.

11. The belt of claim 1 wherein the elongation at break of said sacrificed component is about 5% or less at the molding temperature of the belt.

12. A tensile cord comprising two components: a tensile component and a sacrificed component.

13. The tensile cord of claim 12 which is the result of stretching a precursor cord of said tensile component and a sacrificial component beyond the elongation at break of said sacrificial component resulting in said sacrificed component.

14. The tensile cord of claim 13 having a covered yarn construction having a core and a cover with said sacrificed component as the core and said tensile component as the cover.

15. The tensile cord of claim 12 wherein said tensile component is polyester and said sacrificed component is aramid or glass.

16. The tensile cord of claim 12 wherein said tensile component is aramid and said sacrificed component is aramid or glass.

17. The tensile cord of claim 12 wherein said sacrificed component consists of a plurality of discontinuous segments.

18. A method comprising:

placing belt materials on an expandable cylindrical mold and within a rigid cylindrical shell;

expanding the mold radially outward thus pressing said materials into contact with said rigid shell;

curing said materials at a molding temperature to form a belt sleeve; and

removing said belt sleeve from said mold and shell;

wherein said belt materials comprise a two-component tensile cord comprising a tensile component and a sacrificial component, and at least one of said expanding and curing steps includes sacrificing said sacrificial component of said cord.

19. The method of claim 18 further comprising:

treating said two-component tensile cord under a treating tension and at a treating temperature without sacrificing said sacrificial component before said placing, expanding and curing steps.

20. The method of claim 19 wherein said sacrificial component has a tensile strength and yield strength at said treating temperature at least 10% greater than said treating tension and an elongation of about 2% or less at said treating tension and temperature.

21. The method of claim 18 wherein said placing comprises helically winding said two-component tensile cord about said mold under a winding tension without sacrificing said sacrificial component.

22. The method of claim 21 wherein said sacrificial component has a tensile strength and yield strength at least 10% greater than said winding tension and an elongation of about 2% or less at said winding tension.

23. The method of claim 18 wherein said expanding strains said tensile cord more than the elongation at break or yield point of said sacrificial component resulting in said sacrificing by breaking or yielding.

24. The method of claim 18 wherein the stretchability of said sacrificial component is about 5% or less at said molding temperature.

25. The method of claim 18 wherein said sacrificial component has a melting point less than said molding temperature resulting in said sacrificing by melting.

26. The method of claim 18 wherein said expanding expands said mold in the range of about 3% to 10% in radius.

What is claimed is:

1. A belt comprising a tensile cord embedded in the belt, extending in a longitudinal direction, said tensile cord comprising two components: a tensile component and a sacrificed component, said two components comprise yarns, the tensile component comprising one or more continuous filament yarns of high modulus fibers, and the sacrificed component comprising a second yarn which is broken into a plurality of yarn segments of substantially similar length distributed longitudinally throughout the tensile cord.
2. The belt of claim 1 wherein said sacrificed component provides essentially no significant contribution to the breaking strength of the belt, and said tensile component provides most of the longitudinal tensile reinforcement of the belt.
3. The belt of claim 2 wherein said sacrificed component consists of a plurality of discontinuous segments.
4. The belt of claim 3 wherein said sacrificed component consists of a yarn or mono-filament, broken into a plurality of segments.
5. The belt of claim 4 wherein said tensile cord is a covered yarn having a core and a cover with said sacrificed component as the core and said tensile component as the cover.
6. The belt of claim 2 wherein said sacrificed component consists of a yielded material resulting in a plurality of substantially weakened sections distributed longitudinally throughout the tensile cord.
7. The belt of claim 2 wherein said sacrificed component consists of a melted material.
8. The belt of claim 1 wherein the elongation at break of said tensile component is greater than that of said sacrificed component by at least a factor of two.
9. The belt of claim 1 wherein the volume of said sacrificed component relative to the total tensile cord volume is 20% or less.
10. The belt of claim 1 wherein the elongation at break of said sacrificed component is about 5% or less at the molding temperature of the belt.

11. A tensile cord comprising two components: a tensile component and a sacrificed component; said tensile cord is the result of stretching a precursor cord of said tensile component and a sacrificial component beyond the elongation at break of said sacrificial component resulting in said sacrificed component.

12. The tensile cord of claim 11 having a covered yarn construction having a core and a cover with said sacrificed component as the core and said tensile component as the cover.

13. The tensile cord of claim 11 wherein said tensile component is polyester and said sacrificed component is aramid or glass.

14. The tensile cord of claim 11 wherein said tensile component is aramid and said sacrificed component is aramid or glass.

15. The tensile cord of claim 11 wherein said sacrificed component consists of a plurality of discontinuous segments.

16. A method comprising:

placing belt materials on an expandable cylindrical mold and within a rigid cylindrical shell;

expanding the mold radially outward thus pressing said materials into contact with said rigid shell;

curing said materials at a molding temperature to form a belt sleeve; and

removing said belt sleeve from said mold and shell;

wherein said belt materials comprise a two-component tensile cord comprising a tensile component and a sacrificial component, and at least one of said expanding and curing steps includes sacrificing said sacrificial component of said cord, said expanding strains said tensile cord more than the elongation at break or yield point of said sacrificial component resulting in said sacrificing by breaking or yielding.

17. The method of claim 16 further comprising:

treating said two-component tensile cord under a treating tension and at a treating temperature without sacrificing said sacrificial component before said placing, expanding and curing steps.

18. The method of claim 17 wherein said sacrificial component has a tensile strength and yield strength at said treating temperature at least 10% greater than said treating tension and an elongation of about 2% or less at said treating tension and temperature.

19. The method of claim 16 wherein said placing comprises helically winding said two-component tensile cord about said mold under a winding tension without sacrificing said sacrificial component.

20. The method of claim 19 wherein said sacrificial component has a tensile strength and yield strength at least 10% greater than said winding tension and an elongation of about 2% or less at said winding tension.

21. The method of claim 16 wherein the stretchability of said sacrificial component is about 5% or less at said molding temperature.

22. The method of claim 16 wherein said sacrificial component has a melting point less than said molding temperature resulting in said sacrificing by melting.

23. The method of claim 16 wherein said expanding expands said mold in the range of about 3% to 10% in radius.