

CLAIMS

1. A downhole expandable liner hanger positioned in a subterranean wellbore, comprising:
a liner;
an expansion element, wherein the expansion element comprises:
one or more annular seals bonded to the expansion element;
a first spike; and
a second spike; and
a woven mesh, wherein the woven mesh is disposed around the expansion element between the first spike and the second spike, wherein the woven mesh comprises a first material layer and a second material layer.
2. The downhole expandable liner hanger of claim 1, wherein the woven mesh is disposed within the one or more annular seals.
3. The downhole expandable liner hanger of claim 2, wherein the one or more annular seals are bonded to the woven mesh through vulcanization.
4. The downhole expandable liner hanger of claim 1, wherein the first material layer and the second material layer comprise a metal.
5. The downhole expandable liner hanger of claim 4, wherein the metal is selected from a group consisting of a stainless steel, a carbon steel, a carbon alloy, a nickel alloy, and combinations thereof.
6. The downhole expandable liner hanger of claim 1, wherein the first material layer and the second material layer are woven together into a pattern, wherein the pattern is one selected from a group consisting of plain weave, oxford, twill, herringbone, dobby, satin, velvet, basket weave, jacquard, leno, or combinations.
7. The downhole expandable liner hanger of claim 1, further comprising a third material layer, wherein the third material layer is disposed between the first material layer and the second material layer.
8. The downhole expandable liner hanger of claim 7, wherein the third material layer is a solid sheet of material.
9. The downhole expandable liner hanger of claim 7, wherein the first material layer and the second material layer are pre-woven, wherein the first material layer and the second material layer comprise holes.

10. The downhole expandable liner hanger of claim 9, wherein the third material layer comprises strands of material disposed parallel to each other, wherein the third material layer is interwoven between the first material layer and the second material layer through the holes.
11. A downhole expandable liner hanger positioned in a subterranean wellbore, comprising:
a liner;
an expansion element, wherein the expansion element comprises:
one or more annular seals disposed around the expansion element;
a first spike; and
a second spike; and
a bias fabric comprise multiple sheets of a fiber-reinforced composite, wherein the bias fabric is disposed around the expansion element between the first spike and the second spike.
12. The downhole expandable liner hanger of claim 11, wherein the bias fabric is disposed between the expansion element and the one or more annular seals.
13. The downhole expandable liner hanger of claim 12, wherein the one or more annular seals are bonded to the bias fabric through vulcanization.
14. The downhole expandable liner hanger of claim 11, wherein the bias fabric comprises a material selected from a group consisting of a poly-paraphenylene terephthalamide, a polyamide, an aliphatic polyamide, a semi-aromatic polyamide, a polyester, a polyolefin, a cellulose, a cotton, a wool, a silk, a linen, a hemp, and combinations thereof.
15. A downhole expandable liner hanger positioned in a subterranean wellbore, comprising:
a liner;
an expansion element, wherein the expansion element comprises one or more annular seals bonded to the expansion element; and
a woven mesh, wherein the woven mesh is disposed around the expansion element, wherein the woven mesh comprises a first material layer and a second material layer.
16. The downhole expandable liner hanger of claim 15, wherein the woven mesh is disposed within the one or more annular seals, wherein the one or more annular seals are bonded to the woven mesh through vulcanization.
17. The downhole expandable liner hanger of claim 15, wherein the first material layer and the second material layer comprise a metal, wherein the metal is selected from a group consisting of

wherein the metal is selected from a group consisting of a stainless steel, a carbon steel, a carbon alloy, a nickel alloy, and combinations thereof.

18. The downhole expandable liner hanger of claim 15, further comprising a third material layer, wherein the third material layer is disposed between the first material layer and the second material layer.

19. The downhole expandable liner hanger of claim 18, wherein the third material layer is a solid sheet of material.

20. The downhole expandable liner hanger of claim 18, wherein the first material layer and the second material layer are pre-woven, wherein the first material layer and the second material layer comprise holes, wherein the third material layer comprises strands of material disposed parallel to each other, wherein the third material layer is interwoven between the first material layer and the second material layer through the holes.