CLAIMS

1. A fabric comprising:

a bicomponent fiber, wherein the bicomponent fiber has a core and sheath structure, wherein the core comprises a thermoplastic polyurethane composition having a melting enthalpy of at least 50 J/g measured according to ASTM D3418 and a contact clarity of 4% or less as measured according to ASTM D1003 and the sheath comprises a thermoplastic polyurethane composition having a melting enthalpy of 5 J/g or less measured according to ASTM D3418 and a contact clarity of at least 12% measured according to ASTM D1003.

2. The fabric of claim 1, wherein the core thermoplastic polyurethane composition has a shrinkage of less than 10% after 90 seconds exposure at 70 °C.

3. The fabric of claim 1 or 2, wherein the sheath thermoplastic polyurethane composition has a shrinkage of 40% to 60% after 90 seconds exposure at 70 °C.

4. The fabric of any of claims 1 to 3, wherein the bicomponent fiber comprises a core to sheath ratio of 10:90 to 35:65.

5. The fabric of any of claims 1 to 4, wherein the bicomponent fiber has a shrinkage after 90 seconds of exposure at 70 °C of less than 20% and a contact clarity measured according to ASTM D1003 of greater than 13%.

6. The fabric of any of claims 1 to 5, wherein the bicomponent fiber has a melting range of 100 °C to 120 °C measured by DSC.

7. The fabric of any of claims 1 to 6, wherein the core comprises a polyester thermoplastic polyurethane.

8. The fabric of any of claims 1 to 7, wherein the sheath comprises a polyester thermoplastic polyurethane that is different from the core thermoplastic polyurethane.

9. The fabric of any of claims 1 to 8, wherein the core comprises a thermoplastic polyurethane comprising the reaction product of butanediol succinate and an aromatic diisocyanate.

10. The fabric of claim 9, wherein the core comprises a thermoplastic polyurethane consisting of the reaction product of butanediol succinate and aromatic diisocyanate.

11. The fabric of any of claims 1 to 10, wherein the sheath comprises a thermoplastic polyurethane comprising the reaction product of butanediol adipate, an aromatic diisocyanate, and a chain extender.

12. The fabric of claim 11, wherein the sheath comprises a thermoplastic polyurethane consisting of the reaction product of butanediol adipate, an aromatic diisocyanate, and a chain extender.

13. The fabric of any of claims 1 to 11, wherein both the core thermoplastic polyurethane and the sheath thermoplastic polyurethane are free of crosslinking.

14. The fabric of any of claims 1 to 13, wherein the core comprises a thermoplastic polyurethane having a melting enthalpy of 60 J/g.

15. The fabric of any of claims 1 to 14, wherein the sheath comprises a thermoplastic polyurethane having a melting enthalpy of 5 J/g.

16. A bicomponent fiber having a core and sheath structure, wherein the bicomponent fiber comprises:

(a) a core comprising a first polyester thermoplastic polyurethane; wherein the first polyester thermoplastic polyurethane has a melting enthalpy of at least 50J/g measured according to ASTM D3418.

(b) a sheath comprising a second polyester thermoplastic polyurethane, wherein the second polyester thermoplastic polyurethane has a melting enthalpy of 5 J/g or less measured according to ASTM D3418.

17. The bicomponent fiber of claim 16, wherein the first polyester thermoplastic polyurethane has a contact clarity of 4% or less as measured according to ASTM D1003.

18. The bicomponent fiber of claims 16 or 17, wherein the second polyester thermoplastic polyurethane has a contact clarity of at least 12% measured according to ASTM D1003.

19. The bicomponent fiber of any of claims 16 to 18, wherein the first polyester thermoplastic polyurethane comprises the reaction product of butanediol succinate and an aromatic diisocyanate.

20. The bicomponent fiber of any of claims 16 to 19, wherein the second polyester thermoplastic polyurethane comprises the reaction product of butanediol adipate, an aromatic diisocyanate, and a chain extender.

21. The bicomponent fiber of any of claims 16 to 20, wherein the bicomponent fiber comprises 65% to 90% by weight of the second thermoplastic polyurethane.

22. The bicomponent fiber of any of claims 16 to 21, wherein the bicomponent fiber comprises 10% to 35% by weight of the core thermoplastic polyurethane composition.

23. The bicomponent fiber of any of claims 16 to 22, wherein the first thermoplastic polyurethane has a shrinkage of less than 10% after 90 seconds exposure at 70 °C .

24. The bicomponent fiber of any of claims 16 to 23, wherein the second thermoplastic polyurethane has a shrinkage of 40% to 60% after 90 seconds exposure at 70 °C.

25. The bicomponent fiber of any of claims 16 to 24, wherein the first polyester thermoplastic polyurethane has a melting enthalpy of 60 J/g measured according to ASTM D3418.

26. The bicomponent fiber of any of claims 16 to 25, wherein the second polyester thermoplastic polyurethane has a melting enthalpy of 5 J/g measured according to ASTM D3418.

27. The bicomponent fiber of any of claims 16 to 26, wherein both the first and second thermoplastic polyurethanes are free of crosslinking.

28. A fabric comprising:

a bicomponent fiber, wherein the bicomponent fiber has a core and sheath structure, wherein the core comprises a polyester thermoplastic polyurethane comprising the reaction product of butanediol succinate and an aromatic diisocyanate and has a melting enthalpy of at least 50J/g measured according to ASTM D3418 and a contact clarity of 4% or less as measured according to ASTM D1003 and the sheath comprises a polyester thermoplastic polyurethane comprising the reaction product of butanediol adipate, an aromatic diisocyanate, and a chain extender and has a melting enthalpy of 5 J/g or less measured according to ASTM D3418 and a contact clarity of at least 12% measured according to ASTM D1003, wherein both the core thermoplastic polyurethane and the sheath thermoplastic polyurethane are free of crosslinking.

29. The fabric of claim 28, wherein the fabric is a knitted fabric.

30. The fabric of claim 28, wherein the fabric is a woven fabric.

31. The fabric of claim 28, wherein the fabric is a non-woven fabric.