What is claimed is:

1. A melt spun elastic fiber made from a crosslinked thermoplastic polyurethane, wherein said fiber has an ultimate elongation of at least 400%; wherein the melt spun elastic fiber shows a stress value in the load cycle

(i) at 100% elongation of less than 0.226 mN (0.023 gram-force) per denier,
(ii) at 150% elongation of less than 0.353 mN (0.036 gram-force) per denier, and
(iii) at 200% elongation of less than 0.520 mN (0.053 gram-force) per denier;

wherein the melt spun elastic fiber shows a stress value in the unload cycle

(i) at 200% elongation of less than 0.265 mN (0.027 gram-force) per denier,
(ii) at 150% elongation of less than 0.177 mN (0.018 gram-force) per denier, and
(iii) at 100% elongation of less than 0.147 mN (0.015 gram-force) per denier; and

wherein said thermoplastic polyurethane is prepared from a mixture comprising

(a) a linear hydroxyl terminated polyester having a number average molecular weight of from 500 to 10,000.
(b) a polyisocyanate; and
(c) a glycol chain extender having from 2 to 10 carbon atoms.

2. The fiber of claim 1, wherein a 40 denier monofilament fiber has a width of less than 100 microns.

3. The fiber of claim 1, wherein when said fiber having a denier of 70 is made into a fabric and said fabric is tested for puncture strength according to ASTM D751 said fabric has a load at failure of greater than 2.72 kg (6 pounds).

4. The fiber of claim 1, wherein said fiber is crosslinked with a polyether crosslinking agent.

5. The fiber of claim 1, wherein said polyester thermoplastic polyurethane has a weight average molecular weight of from 200,000 to 700,000 Daltons.

6. The fiber of claim 4, wherein said crosslinking agent is from 5 to 20 weight percent of the combined weight of said polyester thermoplastic polyurethane and said crosslinking agent.

7. The fiber of claim 6, wherein said crosslinking agent is from 8 to 12 weight percent of the combined weight of said polyester thermoplastic polyurethane and said crosslinking agent.

8. A fabric comprising a fiber as defined in claim 1.

9. The fabric of claim 8 further comprising a hard fiber comprising nylon and/or polyester.

10. The fabric of claim 9, wherein said fabric is made up of two strands of thermoplastic polyurethane fiber for every one strand of hard fiber.

11. The fabric of claim 9, wherein said thermoplastic polyurethane fiber has a denier of from 20 to 600.

12. The fabric of claim 11, wherein said thermoplastic polyurethane fiber has a denier of from 70 to 360.

13. The fabric of claim 8, wherein said hard fiber has a denier of 70 and said thermoplastic polyurethane fiber has a denier of 140.

14. An article of clothing comprising the fabric of claim 9.

15. The article of clothing of claim 14, wherein said article is an undergarment.

16. The article of clothing of claim 15, wherein said article is a bra.

17. A process for producing an elastic fiber as defined in claim 1 comprising:
    (a) melt spinning a thermoplastic polyurethane through a spinneret; and
    (b) winding the elastic fiber into bobbins at a winding speed which is no greater than 50% of the polymer melt velocity exiting the spinneret.

18. The process of claim 17, wherein said winding speed is no greater than 20% of the polymer melt velocity exiting the spinneret.

19. The process of claim 18, wherein said winding speed is no greater than 10% of the polymer melt velocity exiting the spinneret.