WHAT IS CLAIMED IS:

1. An angioplasty balloon catheter comprising an axially moveable retractable sheath and a distal tip attached to a distal end of the sheath,

where a distal portion of the retractable sheath is positioned concentrically around an inflatable balloon; and

where the distal tip attached to the distal end of the sheath is an elastomeric plastic having a tensile strength of 41 MPa to 50 MPa, a flexural modulus of between 0.04-0.10 GPa (gigapascals) and a thickness of 140 microns to 191 microns.

2. The catheter of claim 1, where the elastomeric plastic comprises a copolymer of polyether and polyamide.

3. The catheter of claim 1, where the distal tip is about 1.0 to 1.5 mm in axial length.

4. The catheter of claim 1, wherein the distal tip is frustoconical in shape and has a greater diameter proximal end and a smaller diameter distal end.

5. The catheter of claim 4, wherein the distal tip tapers in a distal direction.

6. The catheter of claim 4, where the distal tip comprises a lumen extending in a longitudinal direction from the proximal end to the distal end.

7. The catheter of claim 1, wherein the distal tip comprises an annular marker band disposed at the proximal end of the tip.

8. The catheter of claim 7, wherein the marker band has an inside diameter that is greater than an uninflated diameter of the balloon.

9. The catheter of claim 8, wherein the marker band prevents the inflatable balloon from opening.

10. The catheter of claim 7, wherein the marker band is configured to prevent the distal tip from over-expanding.

11. The catheter of claim 7, wherein the marker band is about 0.04 inches in axial length.

12. The catheter of claim 7, wherein the distal tip comprises a lumen having an axial diameter that is at least 0.010 inches less than the inside diameter of the marker band.