This application claims the benefit of U.S. Provisional Application No. 60/861,716, filed Nov. 30, 2006, and U.S. Provisional Application No. 60/817,700, filed Jul. 3, 2006, and is a divisional of U.S. patent application Ser. No. 11/819,844, filed Jun. 29, 2007; all incorporated herein by reference.

FIELD OF THE INVENTION

The present invention relates generally to the field of prosthetic devices, and more particularly to prosthetic feet and footplates for use therein.

BACKGROUND

In the field of prosthetics, many significant advances in construction and design of prosthetic limbs have been made possible due to improved materials and manufacturing capability. In particular, prosthetic feet and footplates for use therein have undergone large improvements in both design and construction.

The use of lightweight plastics and composite materials in prosthetic feet and footplates represents a significant improvement over the previous designs, which typically included solid blocks of wood that were cosmetically unwanted.

In order to provide low cost and improved prosthetic feet, exemplary embodiments of a prosthetic foot are described.

One embodiment of a prosthetic foot includes a resilient footplate embedded within a first foam element that has a specific density. The footplate is defined by proximal and distal surfaces, as well as anterior and posterior portions, with a terminal end located in the posterior portion. A second foam element is bonded to the distal surface of the posterior portion of the footplate and is also embedded within the first foam element. The second foam element has a density that is higher than the density of the first foam element. The second foam element also has a recess in the proximal surface of the element. Due to the recess in the second foam element, an accommodation space is formed between the proximal surface of the second foam element and the distal surface of the footplate.

In another embodiment, the prosthetic foot may have a tough outer shell that is scuff, puncture and tear resistant, and which defines a cosmesis that encloses the first and second foam elements.

In yet another embodiment, the prosthetic foot may incorporate a pyramid that is retained by a pyramid adapter, wherein at least one attachment bolt secures the pyramid and the pyramid adapter to the resilient footplate. In this embodied-