

MAGNETIC HEAD HAVING T-HEAD WITH IMPROVED BILAYER P1 DESIGN**ABSTRACT**

The magnetic head (200) of the present invention includes a bilayer P1 magnetic pole (202), including a P1A layer (220) that is formed upon the read head element (208) and a P1B layer (230) that is formed upon a P1A layer (220). The P1B layer (230) is patterned with an opening (234) formed proximate the location of the top end (240) of the P2 pole tip (244) that the subsequently fabricated, such that the top gap distance between the top end (240) of the P2 Pole tip (244) and the P1 layer is increased, whereby the magnetic flux leakage across the top gap is decreased.

The method for fabricating the magnetic head (200) includes the additional steps of fabricating the patterned P1B layer (230) upon the P1A layer (220), depositing of insulator material to fill the opening in the P1B layer (230), followed by a CMP step to polish the surface of the P1B layer (230) prior to the deposition of the write gap layer (268) thereon.

Fig.3