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ABSTRACT

A thin film metal alloy magnetic recording disk has a protective 320 nitrogen-containing carbon overcoat which is thinner and which exhibits better wear resistance, corrosion resistance, and hardness than conventional carbon overcoats without nitrogen. The nitrogen present in the disk overcoat substantially reduces the film stress. Because of the low stress of the overcoat film there is significantly less likelihood 325 that the overcoat will delaminate, buckle, or otherwise wear away from the underlying magnetic layer during operation of the disk file. This allows for significantly reduced overcoat thickness, thus reducing the head-disk spacing in the disk file. The overcoat, even though significantly thinner than prior art carbon overcoats, exhibits better 330 wear and corrosion resistance than carbon overcoats without nitrogen. In addition, when the carbon overcoat contains hydrogen, the presence of the nitrogen increases the hardness of the film if present in a specific amount dependent on the amount of hydrogen present.

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