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(54) Title: MULTI-PHASE OVERCOATS FOR MAGNETIC DISCS

(57) Abstract

A magnetic disc (12) for use in a magnetic disc drive (20) is provided. The magnetic disc (12) includes a recording surface (36) wherein the recording surface (36) includes a dual phase carbon overcoat (42). The dual phase carbon overcoat (42) includes an amorphous carbon film (70) sputtered on a magnetic layer (40). A doped amorphous carbon film (72) is sputtered on the amorphous carbon film (70). The dual phase carbon overcoat (42) has demonstrated improved hardness, reduced stiction and superior corrosion resistance over the prior art. A method of manufacturing the magnetic disc (12) is also provided. The method includes providing a sputtering appratus (50) having a process chamber (52), providing a partially manufactured magnetic disc (68) having a magnetic layer (40) thereon, placing the partially manufactured magnetic disc (68) within the process chamber (52), sputtering an amorphous carbon film (70) on the magnetic layer (40), and sputtering a doped amorphous carbon film (72) on the amorphous carbon film (70). The process reduces throughput inefficiencies due to down time cleaning and avoids carbon induced damage to the discs (12).

