

A Review on Non-Asbestos Friction Materials: Material Composition and Manufacturing

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Abstract. The peculiar feature of friction materials to absorb the kinetic energy of rotating wheels of an automobile to control the speed makes them remarkable in automobile field. The regulation of speed cannot be achieved with the use of single phase material as a friction material. Consequently, the friction material should be comprised of composite materials which consist of several ingredients. Incidentally, the friction materials were formulated with friction modifier, binders, fillers and reinforcements. Due to its pleasant physical properties, asbestos was being used as a filler. Past few decades, it is found that asbestos causes dangerous cancer to its inhaler, which provides a scope its replacement. Several attempts have been made to find an alternative to the hazardous asbestos. The efforts made by different researchers for the impact of every composition of composite friction material in the field are reviewed and studied for their effect on the properties of friction material. Surface morphological studies of different friction material are compared to interpret the concept of surface wear and its correlation with material properties.