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PIN-ON-DISC INVESTIGATION ON COPPER-FREE FRICTION MATERIALS DRY SLIDING AGAINST CAST IRON

Mara Leonardi^a, Cinzia Menapace^a, Vlastimil Matějka^b, Stefano Gialanella^a, Giovanni Straffelini^a

^a Dept. of Industrial Engineering, University of Trento, Via Sommarive 9, Povo, Trento, Italy

^b Brembo S.p.A., Stezzano, Bergamo, Italy

KEYWORDS

Dry sliding; Friction material; Brake materials; Friction layer

ABSTRACT

The role of metallic fibers, present in brake pad materials, have been investigated with particular attention to the formation of the friction layer. The aim of the research was to establish an effective approach for the development of less polluting copper-free friction materials. Starting from a reference material, two more compositions were prepared: one obtained just by removing copper; in another, the quota of the removed copper fibers was replaced by steel fibers. The samples were wear tested and the results compared with those obtained with the reference material.

The worn surfaces exhibit specific features, like cracks and compacted wear debris, that provide useful indications for interpreting the main wear phenomena and for a further development of novel friction materials.

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