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Time variation of resistance of coir fibre with different moisture conditions

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In this study, the electrical resistance of individual and bundled coir fibre is investigated. A type of coir fibres of export quality named Bristle fibre are used in this study. In the first part of the study the time taken for the resistance of a single fibre to vary from starting value to 100 MW (the limiting value of the emasuring equipment) was taken. Fibres were kept in water for 3 hours and 24 hours respectively. The results show that the resistance of individual coir fibres is significantly reduced when soaked in water. The time period of recovering the 100MW limiting resistance is independent of the time of soaking. In the second part of the experiment, a bundle of fibres of mass 10 g was investigated for the variation of resistance with time. The bundle is soaked in water and shaken well until the dripping of water stops. Then the mass of the wet bundle is measured. At the two ends, the bundle was tied by two circular metal electrodes with a seperation of 5 cm. The resistance between the electrodes was taken at regular intervals. The wetting of the fibre bundle reduces its resistance down to 25% of the dry state value. The resistance increases with time in an approximately linear manner.