

# **Advance Researches on Fibre Reinforced Concrete in Thailand**

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Concrete is the most use construction material on earth due to its excellent compressive strength, mold-ability and cost effectiveness. However, concrete does have disadvantages on its poor tensile strength and toughness (brittleness). When fibres reinforced concrete (FRC) was first invented, it is aimed mainly to reduce concrete brittleness and provide toughness to concrete. In FRC, small short fibres are uniformed distributed over the body of concrete with main purposes to intercept, slow down and/or even stop crack propagation. However, during the recent years, with several kinds of fibre available in the market and advancements in concrete technology, FRC applications become more than just a toughness enhancement material. In this presentation, advance researches on FRC carried out at KMUTNB Civil Engineering Material laboratory are presented and discussed. Such researches include the application of fibres to enhance fire resistance of concrete, the use of FRC hybridized with rubberized concrete in bulletproof concrete panel, the use of carbon fibre to increase piezoresistivity of concrete in cement based sensor, and the use of FRC technology in Geopolymer concrete.