

# EXPERIMENTAL STUDY ON SHEAR BEHAVIOR OF DAMAGED RC BEAMS JACKETED BY JUTE FRP SHEET

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Natural fibers have the potential to replace conventional FRP for strengthening concrete structures. However strengthening pre-damaged members have not been clarified yet. The shear test was carried out for damaged RC beams jacketed by jute FRP sheets in Kasetsart University, Thailand. Five beams were firstly loaded for pre-damage, and jute FRP sheets were wrapped afterwards. Subsequently, second loading to failure was conducted with parameters of resin injection, the number of jute FRP sheet layers, and damage levels (loading levels). The experimental results show that jute FRP sheet can enhance shear strength of damaged RC beams. With damage level 1 (load larger than the shear cracking load) and level 2 (load larger than the stirrup yielding load), the shear strength of jute FRP wrapped beams increased in the range of 10%-33%. With level 3 (loading beyond the peak load), the shear strength exceeded the residual capacity, which is less than the original capacity, and could be restored to the original capacity. The effects of resin injection could not be seen on the shear strength. With increasing the number of layers, shear strength of the damaged RC beams could be increased. In addition, the results are compared with predicted results by JSCE code.

