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## MODELS FOR TENSION STIFFENING IN RC SLABS AND PANELS

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### **Abstract:**

A new model proposed to represent the ultimate stress state of concrete under tension which has been used in composite laminates to model tension stiffening. Total stress-strain non-linear models based on the theory of elasticity have been used throughout the analysis in this study. The total stress-strain models are load path independent and cannot be employed to model unloading, non-monotonic or cyclic loading. However, the total stress-strain models are reasonably accurate for increasing loads. Since in the present study the work is limited to progressively increasing monotonic loading these models have been adopted. Perfect bond between the concrete and the reinforcement has been assumed throughout the entire loading regime. Model was tested against several experimental studies and a good match was obtained. The model was then used to conduct some parametric studies to fine tune it.

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