

Peeling and diagonal tension failures in steel plated R/C beams

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Abstract: This paper focuses on the design of an experimental investigation motivated by the need to identify various independent modes of failure of steel plated R/C beams. Parameters controlling the various failure modes are identified, and an elaborate testing program confirms existence of peeling failure and flexural failure in addition to isolation of a diagonal tension mode of failure. An expression is proposed to predict ultimate capacity of steel plated R/C beams prone to fail by diagonal tension. 2000 © Elsevier Science Ltd. All rights reserved.