

Title (en)

DEVICE AND METHOD FOR REINFORCING STRUCTURES WITH PRE-STRESSED FIBRE-REINFORCED-POLYMER LAMINATES

Title (de)

VORRICHTUNG UND VERFAHREN ZUR VERSTÄRKUNG VON STRUKTUREN MIT VORGESpanNTEN FASERVERSTÄRKTEN POLYMERLAMINATEN

Title (fr)

DISPOSITIF ET PROCÉDÉ POUR STRUCTURES DE RENFORCEMENT AVEC STRATIFIÉS DE POLYMÈRE RENFORCÉ DE FIBRES PRÉ-CONTRAINTS

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Application

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Priority

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Abstract (en)

This invention discloses a pre-stressing system for retrofitting of reinforced concrete members with externally bonded fibre-reinforced-polymer (FRP) laminates in bending. An FRP pre-stressing system includes a clamping unit (1), a light frame for hydraulic jack (2) and anchoring plates (3). The novel clamping unit (1) comprises tempered steel grips with corrugated gripping surfaces (4) which are tightened with high strength bolts (5) in a steel frame (6). This invention also discloses using the epoxy adhesive (8) on both upper and lower corrugated contact surfaces of the grips (4) and the FRP laminate (7) surface parts being clamped by said grips (4). The result is more effective clamping with very low slipping possibility. This invention provides retrofitting and reinforcement solutions for concrete slabs, wide beams, and also smaller beams, by using the threaded rods (10) and additional steel plates (11) instead of anchor bolts (9).

IPC 8 full level

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CPC (source: EP)

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Citation (applicant)

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Citation (search report)

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