

DEBONDING PROBLEMS IN REINFORCING MASONRY WITH FRP PLATES

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In the strengthening of masonry structures by applying composite fibre-reinforced composites (FRP), the role of the adhesion between the masonry and the FRP assumes a significant importance since it can trigger debonding from the support.

Such kind of failure is undesirable due to it being characterized by a fragile collapse mechanism. It can be located at the end of the strengthening (*plate end debonding*) or in correspondence to the mortar joints or transverse cracks in the masonry (*intermediate crack debonding*).

The loss of adhesion between FRP and masonry is usually characterized by the removal of a surface layer of the brick, stone-block or mortar, since the strength of the adhesive used to apply the strengthening is generally higher than the strength of the support material.

International guidelines for the design and construction of FRP systems for strengthening existing structures have been drawn up and published [1-2, 4-7], including those edited by the Italian CNR [3].

The paper describes some of the recent results obtained by a Task Group of the “National Research Council, Advisory Committee on Technical Recommendation for Construction”, which will be utilized for a revision of the guidelines CNR-DT 200/2004 [3].

References

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