

BASIC RESEARCH ON THE ANCHORAGE OF TEXTILE REINFORCEMENT IN CEMENTITIOUS MATRIX

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ABSTRACT

The anchoring of a textile reinforced strengthening has essential meaning to repair and strengthening of old concrete members. Especially the internal bond between the filament yarns and the surrounding fine-grained concrete matrix is an important parameter, because it can be crucial for a failure of the anchorage.

Experimental investigations on different methods to raise the transferable bond stresses have been done using simple pull-out specimens. The tested carbon textile was therefore be coated by epoxy resin and an additionally layer of sand. Further on, an increase of reinforcement ratio was tested using double-layer of textiles. The results have shown, that an effective reduction of the transfer length of up to 62% can be reached by using this method.

The applicability of direction changes and loops of the yarns was tested with an transition radius of 15 mm. A reduction of the anchoring length of about 30% was therewith possible.

KEYWORDS

Strengthening, textile, anchoring.