Volume XXXIX-B5

Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XXXIX-B5, 5-8, 2012
www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XXXIX-B5/5/2012/
doi:10.5194/isprsarchives-XXXIX-B5-5-2012

DETERMINING PULL − OUT DEFORMATIONS OF BONDED METAL ANCHORS EMBEDDED IN CONCRETE BY MEANS OF PHOTOGRAMMETRY

E. O. Avsar[1], M. O. Altan[1], U. A. Dogan[2], and D. Akca[3]

[1]ITU, Civil Engineering Faculty, Department of Geomatic Engineering 34469 Maslak Istanbul, Turkey
[2]ITU, Civil Engineering Faculty, Department of Civil Engineering 34469 Maslak Istanbul, Turkey
[3]Isik University, Faculty of Engineering, Department of Civil Engineering, 34980 Sile Istanbul, Turkey

Keywords: Acquisition, Monitoring, Engineering, Measurement, Camera, Photogrammetry

Abstract. Chemical anchorages are applied in many engineering implementations, particularly strengthening of reinforced concrete structures. During strengthening procedure; chemical anchorages should be tested, since they supply to transfer the load between existing construction elements and newly added elements. Therefore; the study of the quality of chemical anchorages is an important issue in construction materials science. In this context; the most important experiment is to determine the pull-out loads of embedded anchorage reinforcement by applying axial loads. In this study; it is aimed to determine the displacements of steel reinforcements, embedded into concrete by using chemical anchorages, while applying axial pulling loads. In order to determine the displacements and load – deformation graphs; starting conditions and every 10 bar pressure applied conditions of the steel reinforcements were captured by the cameras. The obtained images were evaluated by using photogrammetric software. Based on the photogrammetric post-processing results, the load – deformation graphs were plotted and the loads at loss of adhesion were determined.

Conference Paper (PDF, 502 KB)

Citation: Avsar, E. O., Altan, M. O., Dogan, U. A., and Akca, D.: DETERMINING PULL – OUT DEFORMATIONS OF BONDED METAL ANCHORS EMBEDDED IN CONCRETE BY MEANS OF PHOTOGRAMMETRY, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XXXIX-B5, 5-8, doi:10.5194/isprsarchives-XXXIX-B5-5-2012, 2012.

Bibtex EndNote Reference Manager XML