

?????????, ??????, ?????????? ??????, ?????????????? ?????? (???????, ?????? ? ????????, 3. VII 1939). ?????????? ?? ?????????????? ?????????? ? ?????? 1963, ? ?????????? ?? ?? ? ?????????? 1982. ?? 1964. ?? 1974. ?????? ?? ?????? ?????????? ? „?????????????????“ (?????), ?? ?????????? ?????????? ?????????? ? ?????????? ??????????. ?????? ?? ? ?????? ?????????????? ?????? ?????? ? ?????????? ?????????? ?????? ?????? ?????????? ?? ?????????? ?????? (????????? ?????????? ??? ? ??????, ?????? ?? 19, 21 ? 23 ?????? ? ??? ????? ? ?????). O? 1974. ?? 2004. ????? j? ? ?????????? ?? ?????????????? ?????????????? ? ?????????? ?????????????? (?????) ? ??????, ??? ?????? ?????????? ? ?????????????? ?????? ?? ?????????? ?????????????? ?????????????? ?????????? ??????????????, ??? ?? ?????????? ?????????? ?? 1986, ? ?????????? ?????????? ?????? ?????????? ? ?????????? 2004. ?????????? ?? ?????????????? ? ?????????? ?????????? ?? ?????????? ?????????????? ?????????????? ?????????? ??????????????, ??? ?? ??????. ??? ?? ?????????? ?????????? ?? ??? ?????????????? (?????? ??????????????, ?????????? ??????????????, ?????????????? ??? ??, ?????????? ?????????????? ??????????, ?? ? ?????????? ? ??.), ???????? UNESCO-? ? ?????????? ?????????? ??, ?????????? ?? ?????????? ?????????????? ? ?????????, ?? ?????????? ? ?????????????? ???????? ?????????????? ?????????????? ?? ?????? ? ???. ?????? ?????????????????? ??? ?? *Structural Consolidations, Repair and Strengthening of Monuments* (New York 1994), ? ?????????????????? ?????????????????, ?????????? ? ?????????? ?????????? ?????????, ??? ? ?????? ?? ?????????? ?????????????????? ?????????????? ? ?????????? ??????????????. ??? ?? ?????????????? ? ?????? ?????????????? ?????? ?????? ?????????????????? ?????????????? ?????????????? ?????????????????? ? ?????????????? ?????????????? ?????????????? ?????????? ? ?????????????? ?????????? ? ??????, ?????????? ? ???. ?????????? ?? ?????????? ?????????? ?? ?????? ?? ?????????? ?????????? ?????????? 1989, ? ?????????????? ?????????? ?????????????? ?????????????? „????? ??????“, ?? ?????????? ? ?????? ??????, ?????? ?? 2005.

?????: ????????, *Repair and Strengthening of Reinforced Concrete, Stone and Brick-Masonry Buildings*, Vienna 1983; ? M. G. Oliva, R. W. Clough, „Seismic Testing of Large Panels Walls; Correlations of Pseudostatic and Shaking table tests“, *Earthquake Engineering and Structural Dynamics*, 1990, 19, N6; ???????, *Seismic Strengthening and Conservation of Byzantine Churches in Macedonia*, Los Angeles 2004.

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\*????? ?? ?????????? ? 1. ????? III ??? ?????? ?????????????????? (2018)