

Revived method of rapid repair for rigid concrete pavement constructions of military Airfield Operation Surfaces

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ABSTRACT: Repair of military concrete runways, traffic areas or highly frequented civilian roads have one common challenge: They have to be completed within the shortest time span, and if possible during running traffic!

Already in the early 80's of the 20th century a rapid repair method for military concrete airfield runways was developed in the eastern part of Germany. The developed method entails dimension-exactly marking the damaged concrete, cutting out the damaged concrete with a diamond cutter or with water – jet technology and then replacing the concrete with prefabricated pre-stressed concrete slabs. The special pre-stressed concrete airfield slab was developed in Russia and called “PAG” (Plita Aerodromnaya Gladkaya) = Smooth Airfield Slab. Standard sizes of the pre-stressed slab range between 6000 x 2000 x 140 – 180 and 240 mm. The subsurface layers below the damaged concrete should be adequately compacted before slabs are placed on damaged areas. Joints are furthermore sealed with hydraulic filler or sealants. The rapid repair method requires only few hours (works and curing period) before lanes are reopened to traffic. A distinct advantage when compared with other repair methods is that the method does not depend on prevailing weather conditions. Practically this method has been implemented with great success.