

P. BRIATKA, J. GAŠPARÍK. *Digital photogrammetry in investigation of application membranes on the surfaces of cementitious materials*. *Gerontechnology* 2012;11(2):82; doi:10.4017/gt.2012.11.02.261.00

Purpose The purpose of this work is to demonstrate usage of the photogrammetry in construction, testing and monitoring of structures. **Method** The method of photogrammetry is based on capturing digital shots of the cementitious surface covered with a membrane preventing water loss from concrete either by single shot or time-lapse method. By converting the pictures into gray scale^{1,2} and analyzing the brightness^{3,4} either of the whole surface or any differential area, we are able to calculate an evenness of the membrane application, a prediction of water loss from cementitious material, humidity underneath the membrane, and the areas of the structure most likely weakened due to excessive water loss. **Results & Discussion** We analyzed the effectiveness of concrete curing by application of a membrane (paraffin-based) on the surface of fresh concrete while studying loss of water depending on boundary conditions of the exposure to the ambient environment (Figure 1). The results in the picture help to refine the data and show this is a means of curing works up to 70%.

References

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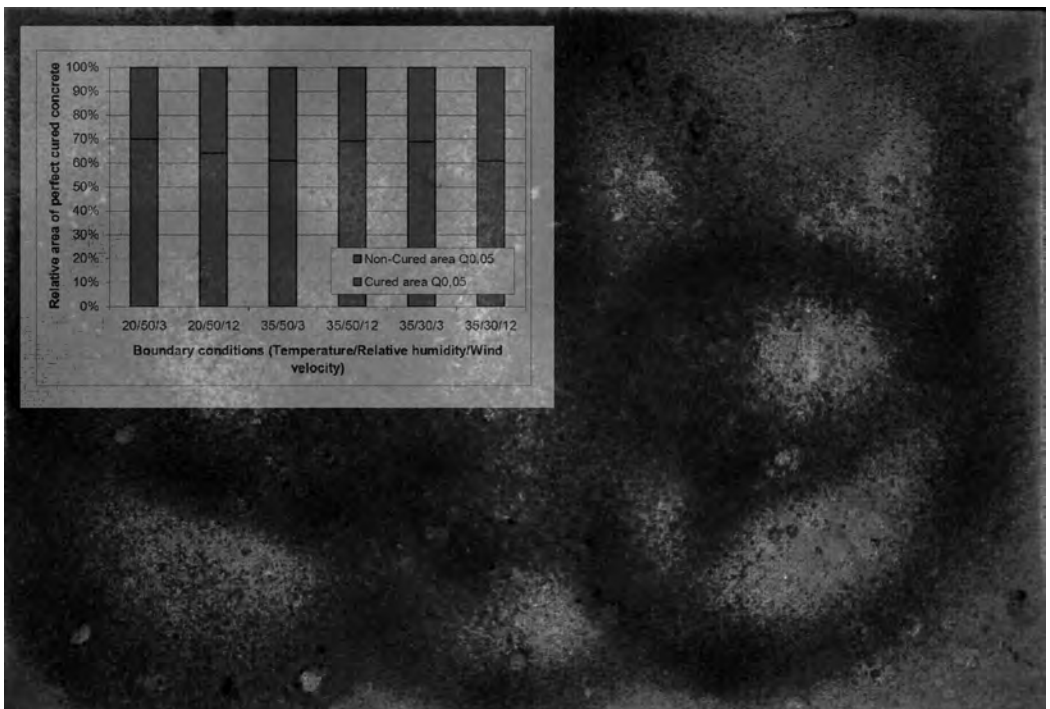


Figure 1. An example of the output of the analysis – converted shot with dark (moist) areas and bright ones representing dry concrete