# INFLUENCE OF POLYMER TYPE ON THE STRUCTURE OF POLYMER MODIFIED CEMENT MORTAR

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ABSTRACT
The addition of polymer emulsion and biocides to the fresh mixture to improve the durability of concrete sewer pipes against biogenic sulphuric acid corrosion is investigated.

The paper deals with the results of the preliminary tests where the behaviour of polymer modified cement mortar is investigated using different types of polymer emulsion. The mechanical properties (compressive strength, bending strength) as well as the physical properties (density, porosity) are determined on mortar beams. Two different curing conditions are used: standard curing, in which a wet curing period is followed by a dry curing period, and dry curing conditions, which is in favour of the polymer film forming.

By means of SEM the influence of the polymer emulsion on the structure of the mortar is investigated. Special attention is drawn to the formation of a film and to the positioning of the polymer film or polymer particles in relation to the aggregates and pores. The SEM-study is carried out on broken samples as well as on acid-etched samples. The relation with the MFFT (minimum film forming temperature) of the polymer emulsions is investigated.