Degradation of mortars was evaluated by determination of the compressive and flexural strengths, mass and dimensional characteristics of the specimens immersed in acid solutions for 6 months. Also, pH and major element concentrations (Ca, Si, Al, Fe and Mg), were monitored over time.

The obtained results allowed a classification of the mortars chemical resistance to the organic acid attack depending on binder type and strength of the acid. Therefore, the mortars prepared with CEM II/B-V (S-V) and CEM V/A(S-V) shown a better chemical stability compared to CEM II/A-S and CEM I. Lactic acid attack caused highest degradation in the mortar containing CEM I. Intensity of the acetic acid attack is closed to the lactic acid, while the combination of the two acids had an weaker aggressiveness.

**Keywords:** cement, organic acid attack, durability

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**FROM RAW MATERIAL CLAY TO HIGH-TECH BRICK - CURRENT TRENDS FROM GERMANY**

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**Abstract**

The global discussion about climate change and the measures of reducing CO₂-emission are a great challenge for the clay brick and tile industry. In spite of the significantly higher price of the highly thermal-insulating vertically perforated clay units the sales is booming, while the sales of traditional bricks are stagnated on low price levels. The question is, how can the technological leap from traditional brick to a high-tech brick, with a heat conductivity of W = 0,07 W/mK, be managed? Which demands will be made on the resources? Which facility management will be required? Current trends from Germany present an interesting perspective for the future market of the clay brick and tile industry.