

Subarea POB3: Modern materials for use in construction

Title of the presentation:

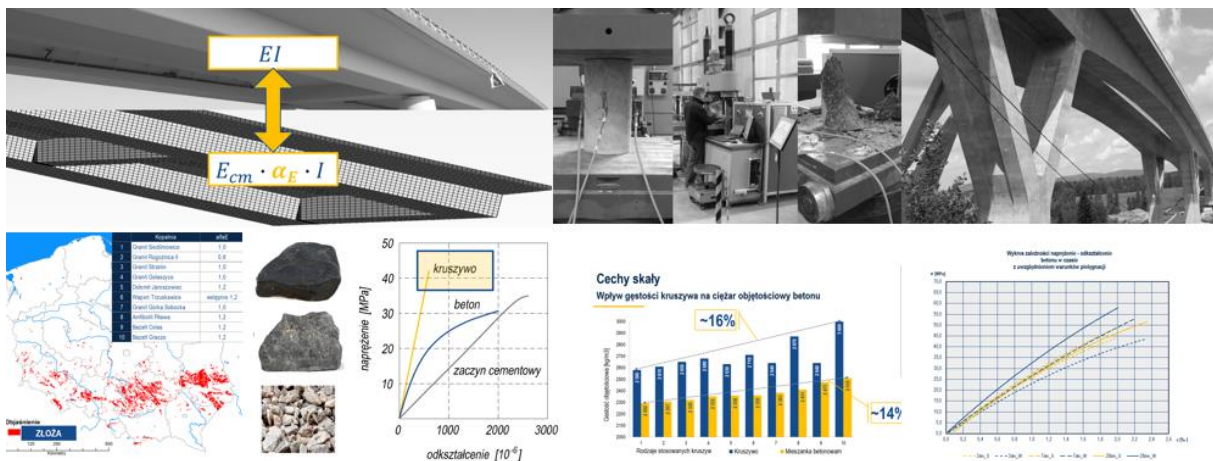
Influence of aggregates on concrete deformability in bridge construction

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Abstract:

The elastic deformation of concrete largely depends on the type of used aggregate. According to EC, the influence of mechanical properties of aggregate is taken into account by the factor "alpha e". The estimated modulus value can vary by as much as 50% between basalt and sandstone. The aim of the research is to identify concrete elasticity modules for the needs of updating standard parameters in the process of designing, building and managing concrete bridges.



The influence of the maturation conditions of modern bridge concretes significantly influences the obtained mechanical properties. This is particularly important in the first 7 days, and standardized care conditions differ from actual conditions. Monitoring the heat of hydration in real conditions allows you to precisely control the care of the samples and thus determine the actual characteristics of the concrete. The tested measuring apparatus, which transfers the conditions from the structure to the controllers of the sample curing devices, allows you to compare the results of sample tests under standardized and mapped conditions. These results differ significantly in the first days, which are crucial in making decisions about the next stages of construction. The purpose of the research is to make procedures by Contractors on the construction site.