MECHANICAL CHARACTERISTICS OF CEMENT BOUND MIXES OF MILLED BITUMINOUS CONCRETE AND CRUSHED AGGREGATES

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Cold recycling with hydraulic binders, in cases of rehabilitation and strengthening of flexible pavements, is a method with enhanced possibilities due to the recently developed powerful milling and in-situ mixing machines. In this work the mechanical properties (compressive strength, tensile strength, modulus of elasticity and creep) of mixes produced by treating with 5% cement (by mass) of milled bituminous concrete and crushed limestone aggregates in various proportions are examined. The influence of a) the type of loading (sinusoidal or ramp loading or dynamic-resonance testing) b) the rate of stress application and c) the temperature, on the modulus of elasticity of these mixes is also investigated. The crack susceptibility of these materials is discussed. Finally, the required thickness of such treated layers is compared to that of conventional cement treated layer of crushed aggregates. It is concluded that these materials offer interesting solutions from the technico-economic and environmental point of view in case of rehabilitation and strengthening of flexible pavements.