

CHARACTERIZATION AND EVALUATION OF DIFFERENT COARSE AGGREGATES PARTICLE SHAPE AND SURFACE TEXTURE: ACASE STUDY IN LIBYA

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Abstract

Particle shape, angularity and surface texture are critical properties in assessing aggregate usage for asphalt concrete mixtures. Fractured and flat and/or elongated particles are used in most specifications to assure quality. The particle index and the percentages of flat and elongated particles indirectly measure particle shape, angularity and surface texture and offer alternative options. The objectives of this study are: (1) to characterize and quantify the coarse aggregate particle shape and texture that are used in hot mix asphalt (HMA) mixtures and selected from different aggregate sources in Libya and (2) to evaluate the influence of flat and/or elongated particle and fractured particles percentages on the particle index of the coarse aggregate produced from these sources. The aggregate shape and texture are evaluated in this research using percentages of fractured particles, particle index, flat or elongated particles and flat and elongated particles.