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ABSTRACT

Drum mix plants, the primary hot-mix asphalt (HMA) production plants for most Kansas Department of Transportation (KDOT) projects, use belts to feed virgin aggregates and reclaimed asphalt pavement (RAP) into the drum for HMA production. At the beginning of each project, the belts are calibrated to control the aggregate and RAP quantities during mixing, and then, based on the totalizer input, a specific amount of virgin binder is pumped from a storage tank. Although current specifications require the totalizer to determine the percentage of RAP in HMA, an asphalt cement (AC) mass-balance method indicates the differences in RAP content in the mixture. KDOT conducted a detailed analysis of one project and found that the amount of RAP back-calculated from the total mass of mixture and virgin binder content was higher than the designated RAP content, highlighting the need for data investigation and verification of multiple projects.