OKLAHOMA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION
FOR
WARM MIX ASPHALT MATERIAL REQUIREMENTS

These Special Provisions amend and where in conflict, supersede applicable sections of the 2009 Standard Specifications for Highway Construction, English and Metric.

708.04 COMPOSITION OF MIXTURES *(Add the following:)*

F. Warm Mix Asphalt

Unless otherwise shown on the plans, mixtures produced as Warm Mix Asphalt (WMA) will be accepted at the Contractor's option. For WMA, mixing temperatures may be reduced. Unless otherwise directed, use only WMA additives or processes listed on the Department's approved list maintained by the Materials Division. The Materials Division Engineer may accept new additives or processes with sufficient evidence of performance.

Prepare WMA mix designs in general accordance with AASHTO R 35 except where modified by these specifications. WMA requirements are the same as for HMA except where noted. When using the technology during a mix design, increase the oven aging period to four hours before preparing samples for moisture susceptibility and rut testing. Report the supplier's recommended temperatures for plant mixing and roadway compaction on the mix design. Report the supplier's recommended temperatures for laboratory mixing and compaction on the mix design.

For WMA using an additive technology, perform the mix design using the additive. For WMA designs that use a plant process, perform the mix design as an HMA mix design. If the laboratory has a foamer, the design may be performed using that process. Alternatively, use an existing approved HMA mix design except when the percent binder absorbed exceeds 1.00 percent. The percent binder absorbed formula is shown at the end of this paragraph. When the percent binder absorbed exceeds 1.00 percent, use the plant-produced WMA material for moisture susceptibility and rut testing. Report the additive or process used by name, supplier source, and application rate (if applicable) on the mix design.

$$P_{ba} = \frac{100\,G_b\,(G_{se} - G_{sb})}{G_{se}\,G_{sb}}$$

Where:
P_{ba} = Percent binder absorbed by total mass of aggregate,
G_b = Specific gravity of the binder,
G_{se} = Effective specific gravity of the combined aggregates, and
G_{sb} = Bulk specific gravity of the combined aggregates.