MEMBER BEST PRACTICES

TXAPA
Texas Asphalt Pavement Association

MAINTAINING TEMPERATURE WHILE PAVING WITH HMA IN COLD WEATHER

Above all else, the temperature of hot mix asphalt (HMA) during the rolling operation determines the success of the compaction operation. The primary factors influencing the rate of heat loss in HMA are: lift thickness, base temperature, mix delivery temperature, ambient air temperature, wind speed, and solar-radiant flux.

Tips For Maintaining Temperature

- **Tarp loads when necessary.** For short hauls, the crust that develops maintains internal heat and is readily re-mixed with hot asphalt upon unloading and transfer to and through the paver.

- **Unload the third and fourth trucks first, then the first and second trucks.** The first couple of truckloads are generally cooler from plant startup or the cooler cone of silos. A hotter mix heats the paver screed faster and avoids tearing the mat at the start of paving.

- **Avoid using a pickup machine.** HMA loses approximately 10° to 20°F of its delivery temperature during transfer to the paver hopper. End dumping into the paver results in only about 5°F heat loss. HMA loses another 10° to 20°F when going from the paver hopper to behind the screed. Avoid long windrows when using a pickup machine. Do not string out windrows until they are ready to be picked up.

- **Keep the paver hopper near full when waiting 15 minutes or less for trucks.** The mix retains heat better in a large mass and keeps the hopper hot. Communicate with the plant to ensure proper truck spacing and minimal waiting periods.

- **Keep handwork and raking to a minimum.** Every time the mix is "fluffed," it loses considerable heat.

- **Roll from the hot side of the mat.** When constructing longitudinal joints in cold weather, roll from the hot side as soon as possible.

- **Utilize the MultiCool App.** MultiCool is an asphalt pavement cooling prediction program for use during construction. MultiCool is meant to estimate how rapidly a freshly-placed mat will cool as a function of the initial mat temperature, ambient conditions, mat thickness, and other properties. The cooling rate prediction can help contractors better plan their rollir achieve target mat density.

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