

Questions and Answers
from Tech Tuesday Webinar on
Admixtures for Modern Paving Concrete
October 21, 2025

1. I have a comment more than a question. As a contractor, I value jointing information and layout in a plan. If the project is rural, then jointing is not critical. However, jointing layout helps us understand what is needed with the addition of turn lanes or intersections to the mainline. Turn lane and/or intersection layouts also help us verify plan quantities. (Contractor, IA)

ANSWER: Although most ODOT plans have a suggested joint layout, most of our contractors prefer to use their own anyway. As for overlays, these are typically rural in nature, not requiring much in detail.

2. Do you guys have a preference when it comes to bonded vs unbonded overlays? Have you seen one perform better than the other with similar environmental conditions? (Agency - OK)

ANSWER: I wouldn't say a preference of one over the other as much as what do the site conditions require. In some instances, bonded makes sense and in others unbonded is the best option. The CP Tech Center's 'Guide for Concrete Overlays' is very helpful in making this determination. With all that said, concrete bonded to existing asphalt seems to have an excellent track record in Oklahoma.

In Iowa, the performance of all concrete overlays is very good with service life of over 35 years while unbonded concrete overlays on asphalt (COA-U) have shown to be slightly better than bonded concrete overlays on asphalt. (COA-B) Additionally, concrete overlays bonded to existing concrete (COC-B) are not as common as other overlay types and should only be considered in special circumstances.

3. Were dowel bars or tie bars placed in concrete overlay? (Agency, CA)

ANSWER: In general, for thin overlays ($\leq 6"$) no. Thin overlays are typically bonded, which helps prevent the slabs from separating therefore negating the need for tie bars. The Guide to Concrete Overlays does not recommend tie bars in concrete overlays less than 5 inches in thickness.

We also use fibers in our thin overlays which provide some help in preventing slabs from separating.

While some agencies have used dowels in 6-inch-thick overlays, dowel bars are typically not used in concrete overlays less than 7 inches thick. per the Guide to Concrete Overlays. If your thickness design is 6" or thinner, you likely don't have sufficient truck traffic to warrant dowels. For thicker overlays, yes – we place dowels and ties the same as for normal concrete paving. The underlying pavement is simply viewed as a base.

4. What's the typical spacing of transverse joints? (Agency, CA)

ANSWER: It depends. For concrete bonded on concrete, you must match the existing joints below and be cut to full depth through the overlay. Again, bonded concrete overlays on concrete (COC-B) require other special considerations and are not commonly used. For thin concrete bonded on asphalt, 6'x6' is typical. For unbonded overlays, same rules apply as for normal concrete paving, typically 12' to 15' transverse spacing.