

## Asphalt pavements are tops with QMP

Everybody wants a high quality product when they are laying hot-mix asphalt. It's easier in Wisconsin which is a national leader in ensuring asphalt pavement quality through its Quality Management Program (QMP).

Under QMP the contractor follows state specifications, using standardized testing to ensure that everything from mix design to compaction are top quality.

Contractors and municipalities both benefit from the joint state-industry effort to develop specifications, implement training, and institute quality management in asphalt paving projects.

"Contractors use testing and make changes during the construction operation that ensure a quality product before the job is completed," says Gary Whited, Director of the Bureau of Highway Construction at WisDOT. He helped get the quality program started five years ago. "They know more about their product and what makes it perform, and that has helped them find ways to manage quality and even cut costs in some cases."

Municipalities who generally didn't have the staff to inspect for quality under the old system get the benefit of contractors and crews who are committed to the quality program and trained to deliver it. The municipality can easily include quality management in its contracts by using the state's standard bid specs for asphalt paving.

"Use the state spec book," Jerry Waelti Executive Director of the Wisconsin Asphalt Pavers Association (WAPA) advises. "DOT has the expertise, the engineers and the resources to set up good specs. And, since we helped them develop the specs, we know them and they take our needs into account. Having a standard set of specs throughout the state makes it easy for contractors to come up with a competitive bid because they know exactly what's expected of them."

Once contractors were skilled at using testing to manage quality, they were ready to take a further step—warranting the performance of their pavements.

"Our contractors are so confident of their product that they are willing to warranty it for five years on some stretches of pavement. We were the first ones in the country to do that," says Jerry Waelti, of WAPA. The first pavement warranty was made three years ago on a selected stretch of state highway. In 1997 the state will receive up to eight pavement warranties.

### Training and testing ensure quality

The two critical components of quality management are training and testing. Most larger contractors and private engineering testing labs, and some communities, have trained employees through the Highway Technician Certification Program offered by the UW-Platteville. More than 50 training sessions one to five days long are taught throughout the "off" season for roadway construction. Training is formal, and tested, and it leads to various certifications.

This uniform training ensures that workers know what tests to perform, when to perform them, and how to do them the same way every time. In addition, it means that everybody has the same reference points: contractors, consultants, and state inspectors. "Our DOT inspection personnel have the same training as contractors and consultants," says Gary Whited. "So we're using the same specs, the same tests, and the same language."

Testing ensures that the aggregate, the asphalt and the mix are all at the quality that is specified in the mix design. In addition to the trained technician, testing requires special equipment and a place to do the work.

In Chippewa County, where they operate their own hot-mix asphalt plant, they've invested more than \$30,000 in setting up a testing lab to ensure a quality product in the 90,000 tons of asphalt they produce each year. They test the aggregate for gradation and moisture content daily or about every 1500 tons. They also test the asphalt for conformance to the mix design. Technicians from the nearby counties of Clark and Barron also use the testing lab for a fee.

"Our objective is to increase the longevity of the pavement," says Bruce Stelzner, Chippewa County Highway Commissioner. "Looking at the roads we've done in the last couple years, there's less rutting and less flushing. They look like they will have more durability."

You don't need your own facility to take advantage of testing. Smaller contractors and communities can contract with independent testing labs to run quality tests on their aggregate and hot mix, as well as Portland cement concrete mix, base material and other roadway components that affect quality.

It's expensive to re-do, repair, or repave. Quality management means fewer costly mistakes.



*Quality management procedures are an important element in state asphalt paving specifications.*