SEALING THE JOINT

Over the years, both crack sealing and crack filling have proven to be very cost-effective tools in the preventive maintenance tool box. When sealing streets and highways, one area that has been overlooked is the joint between two types of pavement. The joint can be between the asphalt street and concrete curb or the concrete pavement and asphalt shoulder.

When the joint between these pavements is left unsealed, the water is expected to flow over the open joint and into the drainage structure. In reality, water will enter the exposed joint and saturating the underlying base materials. In areas where de-icing chemicals are used for snow removal operations, the flow of the residual brine can cause the areas of infiltration to thaw earlier than the non-affected areas.

Where’s the proof that sealing these joints makes a difference in performance?

MnDOT did a study and published the *Edge-Joint Sealing as a Preventive Maintenance Practice* report. The results indicated sealing the joint between the concrete main line pavement and the asphalt shoulders reduced water infiltration by 80%. The assumption was by keeping the base and sub-base drier, there would be better performance.

There are at least three methods of sealing the joints:

1. Rout and seal if the configuration of the joint will allow a router to be centered over the joint.
2. Clean and fill the joint if the concrete curbs have a pan that is too narrow to allow routing.
3. Apply a joint adhesive to the face of the concrete and then pave the hot mix asphalt against it. The joint adhesive was developed to be applied to cold paving joints to help reduce water infiltration. It has a higher viscosity than a normal hot pour sealant, which allows a thicker layer to be applied to the face of the structure.

A best practices guide, Recommended Performance Guidelines for Crack Treatment, can be found on the ISSA website.
When sealing pavement cracks, do not overlook the joints along the curb line or between the shoulder and pavements.

Reference: