

**CITY OF COLUMBUS
PUBLIC SERVICE DEPARTMENT
TRANSPORTATION DIVISION**

**SUPPLEMENTAL SPECIFICATION 1520
SAWING AND SEALING CONCRETE JOINTS**

APRIL 29, 2003

1520.01	Description
1520.02	Joint Preparation
1520.03	Random Joint Preparation
1520.04	Curb Joint Preparation
1520.05	Material
1520.06	Sealing Joints and Random Cracks
1520.07	Method of Measurement
1520.08	Basis of Payment

1520.01 Description. This item is to be used on all existing concrete pavement to reface all construction joints and random cracks. The work shall include all labor, equipment, and materials necessary to saw the pavement joints and cracks to the depth and width specified, all necessary clean-up, and apply a joint seal bituminous material to the re-faced area.

All new interior pavement control joints will be treated and sealed under 1520 and as outlined in the Construction and Materials Specification book, latest edition.

1520.02 Joint Preparation. Joints should be refaced using a power driven concrete wet saw with a diamond blade to expose a new clean concrete surface. The joint should be cut to a minimum width of ½ inches and a depth of ¾ inches.

Following the re-facing operation, the joint faces and opening shall be thoroughly cleaned by high pressure water blasting to remove all cuttings or debris remaining on the faces or in the joint opening. The water cleaning equipment shall be capable of delivering water with a pressure of 2,000 psi from the nozzle to the crack or joint being cleaned. Joints insufficiently cleaned by the first pass of the water blasting shall have the vertical faces re-cleaned when deemed necessary by the Inspector.

All slurry and debris resulting from the sawing and cleaning operations shall be washed and swept up immediately after sawing. The contractor shall have an adequate supply of water on site to perform all necessary sawing and cleaning operations. All work as part of 1520.02 shall be performed in the same workday. Any changes must be approved by the Inspector.

1520.03 Random Crack Preparation. Random cracks shall be saw cut with a diamond saw blade. The saw shall be capable of following random cracks and creating a sealant reservoir which is at least ½ inch wide and ½ inch deep.

Following the sawing operation, the random cracks shall be cleaned as per item 1520.02.

1520.04 Curb Joint Preparation. The longitudinal joints between the curb and concrete pavement shall be sawed and sealed and will be paid as pavement joints. No transverse curb joints are to be sealed as part of this process.

1520.05 Material. The sealant material shall be **CRAFCO 221** polymeric hot applied sealant or an approved equal. It shall meet or exceed all requirements of ASTM D-3405, including the following specification limits:

<u>Test</u>	<u>ASTM D3405</u>
Penetration	90 max
Flow	3mm max.
Resilience	60% min.
Bond, -20°F, 50% ext.	Pass 3 cycles
Asphalt Compatibility	Compatible

The equipment used for heating and applying the hot-applied sealant shall be a double walled type kettle equipped with an agitator and using oil as a transfer medium. The kettle shall have an effective mechanically operated agitator and shall be equipped with a positive thermostatic temperature control which shall be checked for calibration before commencing work. The sealant shall not be heated above 390 degrees. The sealant material shall not be diluted in any way.

1520.06 Sealing Joints and Random Cracks. Immediately prior to the installation of the sealant, the joints shall be blown dry with oil free compressed air at 90 psi and left completely free of all debris and water.

The sealant may not be placed unless the air temperature is 40 degrees or higher. The sealant compound shall not be placed unless the joint is dry, clean, and free of dust. The joints shall be filled in a neat workmanlike manner, so that at the completion of work, the surface of the sealant is within plus or minus 1/8 inch of the pavement surface. All excess sealant and/or spilled sealant shall be removed.

If the equipment being used requires cleanout of pumps or plumbing lines, follow the manufacturers cleanout instructions. If a solvent is used for cleanout, insure that the solvent does not contaminate the sealant because sealant dilution and flash problems may occur.

Since the sealant is heated to elevated temperatures, it is essential that operations be conducted in a manner which assures the safety of all personnel. Anyone associated with the use of the material needs to have read and understand all sections of the product MSDS and need to be aware of the hazards of using hot applied materials. All necessary safety precautions are to be in place before work begins.

1520.07 Method of Measurement. The accepted quantities measured in place will be paid for at the contract unit price for sawing and sealing transverse and longitudinal joints and random cracks in concrete pavement. The unit of measure shall be per linear foot.

1520.08 Basis of Payment. Sawing and sealing concrete joints and random cracks shall be paid for per linear foot for furnishing all materials, equipment, labor and incidentals necessary to complete the work as specified.

<u>Item</u>	<u>Description</u>	<u>Unit</u>
1520	Sawing and Sealing Concrete Joints	Linear Foot
1520	Sawing and Sealing Random Cracks	Linear Foot