GUIDE SPECIFICATION FOR 3405: HOT-APPLIED, SINGLE COMPONENT, POLYMERIC JOINT SEALING COMPOUND

SECTION 02760 - PAVING SPECIALTIES: HORIZONTAL JOINT SEALANT

SECTION 32 13 73.16 (MasterFormat 2004) – FIELD MOLDED CONCRETE PAVING JOINT SEALANTS

Specifier Notes: This guide specification is written according to the Construction Specifications Institute (CSI) format. The section must be carefully reviewed and edited by the architect or engineer to meet the requirements of the project. Coordinate this section with other specification sections and the drawings.

Specifier Notes: 3405 is a quality, hot-applied, single-component polymeric compound. 3405 was specifically formulated for the cost-effective sealing of cracks and joints in Portland cement and asphalt concrete highways. It offers excellent bonding properties, high resiliency and resistance to degradation from weathering. It is ideal for large-, medium- and small-scale sealing projects. It will not become brittle at low temperatures and will not flow or migrate from the joint at temperatures up to 140º F (60º C). 3405 is recommended for large-scale sealing of joints and cracks in Portland cement and asphalt concrete pavements because of its excellent cost efficiency, long sealant life and high return on investment. Typical applications include sealing expansion and contraction joints in concrete highways (both transverse and longitudinal), joints between concrete pavements and asphaltic shoulders, and random cracks in both Portland cement and asphalt concrete pavements.

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete joint and crack preparation.

B. Application of one-component, hot-applied horizontal joint sealant.

1.02 RELATED SECTIONS

Specifier Notes: Edit the list of related sections as required for the project. List other sections dealing with work directly related to this section.

A. Section 03 30 00 - Cast-in-Place Concrete.

B. Section 07 92 00 - Joint Sealants.

C. Section 32 12 16 - Asphalt Paving.

D. Section 32 13 13 - Concrete Paving.

1.03 REFERENCES

A. AASHTO M 173 – Standard Specification for Concrete Joint-Sealer, Hot-Poured Elastic Type.

B. AASHTO M 301 - Joint Sealants, Hot Poured, for Concrete and Asphalt Pavements.

C. ASTM D 3405 - Standard Specification for Joint Sealants, Hot-Applied, for Concrete and Asphalt Pavements.

D. ASTM D 6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

E. Corps of Engineers CRD-C 530 - Sealant, Joint, Non-Jet-Fuel-Resistant, Hot-Applied, for Portland Cement and Asphalt Concrete Pavement.

F. Federal Specification SS-S-164.

G. Federal Specification SS-S-1401C - Sealant, Joint, Non-Jet-Fuel-Resistant, Hot Applied, for Portland Cement and Asphalt Concrete Pavements.

1.04 SUBMITTALS

A. Comply with Section 01 33 00 - Submittal Procedures.

B. Submit manufacturer's product data and application instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Store materials in a clean, cool, dry area in accordance with manufacturer's instructions.

C. Do not open carton until ready to use.

D. Only melt enough material to be poured the same day.

E. Do not heat to temperatures above 390 ºF (199º C).

F. Protect materials during handling and application to prevent damage or contamination.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Do not apply sealant when air or surface temperatures are below 40º F (4º C).

B. Do not apply sealant in wet joints.

C. Do not apply sealant in joints subject to hydrostatic pressure.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. W. R. MEADOWS®, INC., PO Box 338, Hampshire, Illinois 60140-0338. (800) 342-5976. (847) 683-4500. Fax (847) 683-4544. Web Site www.wrmeadows.com.

2.02 MATERIALS

A. Horizontal Joint Sealant: Hot pour single component joint sealant shall be 3405 hot-applied polymeric sealant as manufactured by W. R. MEADOWS.

2.03 ACCESSORIES

A. Backer Rod: CERA-ROD™ heat-resistant backer rod manufactured by W. R. MEADOWS.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine areas to receive joint sealant. Notify consultant if surfaces are not acceptable. Do not begin joint preparation or sealant application until unacceptable conditions have been corrected.

3.02 JOINT OR CRACK PREPARATION

A. Ensure proper joint design practices are followed.

B. Remove foreign substances, incompressibles and free water from joint opening.

C. Route joint to a dimension slightly larger than the existing joint to ensure proper adhesion to sidewalls.

D. Joints must be clean and dry.

E. Dust, dirt and laitance should be removed prior to application.

F. Install backer rod or joint filler to control depth of joint sealant.

G. Protect adjacent surfaces not designated to receive joint sealant.

3.03 APPLICATION

A. Apply joint sealant in accordance with manufacturer's instructions.

B. Ensure accessory materials are compatible with joint sealant and approved by joint sealant manufacturer.

C. Melt joint sealant in a conventional double-boiler, oil-jacketed melter-applicator equipped with an agitator and separate control thermometers for both the oil bath and melting vat.

D. Add small quantities of joint sealant with the plastic bag liner to the melter.

E. Control material temperature at 370º F (188º C) ensuring that the material temperature does not exceed 390º F (199º C).

F. Pour joint sealant into the joint, slightly overfilling the joint.

G. Follow up with a U-shaped, soft rubber squeegee forming a wipe zone of approximately 3 – 4” (76.2 - 101.6 mm).

H. Ensure joint sealant is flush with the pavement surface.

3.04 CLEANUP

A. Draw off and discard all material left in the melter-kettle.

B. Flush all lines out ensuring they are clean.

END OF SECTION