

**1505 - MATERIALS FOR FILLING AND SEALING JOINTS IN PIPE**

**SECTION 1505**

**MATERIALS FOR FILLING AND SEALING JOINTS IN PIPE**

**1505.1 DESCRIPTION**

This specification covers the following five types of products:

- a. Joint compound for filling and sealing joints in concrete and vitrified clay pipe.
- b. Flexible gasket type joint material for filling and sealing joints in concrete and vitrified pipe.
- c. Factory molded joint rings for use on standard or extra strength clay pipe.
- d. Materials for sealing joints in cast iron pipe.
- e. Expanded closed-cellular rubber gaskets for filling and sealing joints in reinforced concrete pipe and boxes used for drainage and storm water lines.

**1505.2 REQUIREMENTS**

**a. Compound Type Joint Filler.**

(1) General. Provide a compound that is a ready-mixed homogeneous blend of asphalt or tar, inert filler and a suitable solvent or solvents. The inert filler may include polyethylene, polypropylene or cellulose fibers, mica, slate or silica flour or clay. Do not use any type of asbestos material. Mix all ingredients thoroughly at the factory to a uniform workable consistency.

(2) Physical. Provide a compound that complies with **TABLE 1505-1**:

<b>TABLE 1505-1: COMPOUND TYPE JOINT FILLER</b>		
<b>Property</b>	<b>Min.</b>	<b>Max</b>
Percent Ash	----	30
Penetration (Standard Cone) 150g, 5 sec., 77°F	125	250

(3) Packaging. Limit container size to 5 gallons of material.

(4) Sampling. Sample in accordance with applicable provisions of KT-27.

**b. Flexible Gasket Type Joint Filler.** Provide a flexible plastic gasket material supplied in extruded rope form for use where infiltration or exfiltration is a factor in design. Produce flexible plastic gaskets from blends of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler and containing no solvents. Provide a gasket joint sealer that does not depend on oxidizing, evaporating or chemical action for adhesive or cohesive strength. Supply the sealer in extruded rope form of suitable cross section and size to fill the joint space when the pipes are joined.

Provide material that complies with AASHTO M 198.

**c. Factory Molded Joints.** Provide factory-molded joints capable of being fused to both bell and spigot ends of pipe. Provide material that produces watertight joints when the pipe is joined in the trench. The material must comply with ASTM C 425.

**d. Materials For Sealing Joints in Cast Iron Pipe.**

(1) Packing. Provide material for packing that is twisted jute complying to the Federal Specification "Packing: Jute, Twisted" Serial No. HH-P-117-2, Type II.

(2) Caulking. Provide lead caulking complying to the Federal Specification "Lead, Caulking" Serial No. QQ-C-40.

(3) Rubber Seals. In lieu of lead and jute for sealing joints, the use of specially designed rubber seals will be permitted. Install rubber seals in accordance with the manufacturer's recommendation.

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### e. Expanded Closed-Cellular Rubber Gaskets for Reinforced Concrete Pipe and Precast Boxes.

(1) Provide gaskets of tubular cross-section, manufactured from extruded closed-cellular rubber and complying to the physical requirements of ASTM D1056, Class 2C1. Each gasket must be a single continuous part and will conform to the joint size and shape. The outer surface must be completely covered with a smooth, impermeable natural skin of the same material.

(2) Gasket cross-sectional diameters and installation practices, including maximum and minimum joint gaps must be in accordance with the manufacturer's recommendations. Provide a copy of the manufacturer's installation instructions to the Field Engineer.

Do not use this type of gasket when the pipe is installed by jacking or boring methods.

### 1505.3 TEST METHODS

#### a. Compound Type Joint Filler. Test in accordance with TABLE 1505-2.

<b>Property</b>	<b>Method</b>
Penetration (Standard Cone, Unworked)	ASTM D 217
Use an 8-ounce gill can as the test container.	
Percent Ash	AASHTO T 111

### 1505.4 PREQUALIFICATION

None required.

### 1505.5 BASIS OF ACCEPTANCE

a. **Compound Type Joint Filler.** Satisfactory results of tests conducted at the Materials and Research Center. A representative of KDOT will sample each lot or batch of material. Each lot will be subjected to visual examination and testing in accordance with **subsection 1505.3** and for compliance with **subsection 1505.2a**.

b. **Flexible Gasket Type Joint Filler, Factory Molded Joint Rings and Materials For Sealing Joints In Cast Iron Pipe (except Rubber Seals).** Receipt and approval of a Type D certification as specified in **DIVISION 2600**.

c. **Rubber Seals.** Visual inspection by the Engineer.

#### d. Expanded Closed-Cellular Rubber Gaskets.

(1) Receipt and approval of a Type D certification as specified in **DIVISION 2600**.

(2) Visual inspection by the Engineer for workmanship, fit and final installation practices.