

1 All fly ash is sampled and tested by the Department as it arrives on the project at such
2 frequency as established by the Department.

3 **1024-6 GROUND GRANULATED BLAST FURNACE SLAG**

4 Use blast furnace slag that meets AASHTO M 302, Grade 100. All slag is sampled and tested
5 by the Department as it arrives on the project at such frequency as established by the
6 Department.

7 **1024-7 SILICA FUME**

8 Provide silica fume (microsilica) that meets Tables 1, 2 and 3 of ASTM C1240 All silica
9 fume is sampled and tested by the Department as it arrives on the project at such frequency as
10 established by the Department.

11 **SECTION 1026** 12 **CURING AGENTS FOR CONCRETE**

13 **1026-1 GENERAL**

14 All curing agents shall be free from impurities that may be detrimental to the concrete. Do
15 not use curing agent until the applicable tests have been performed and the Engineer has
16 approved the curing agent.

17 **1026-2 LIQUID MEMBRANE CURING COMPOUNDS**

18 **(A) General**

19 Liquid membrane curing compounds shall meet AASHTO M 148, except that when
20 tested in the water retention test described in AASHTO T 155 the curing compound shall
21 restrict the loss of water in the test specimen at the time of application of the compound
22 to not more than 0.007 oz./sq.in.

23 The curing compound shall be Type 2, white pigmented, except where clear type is
24 required for a particular application, the curing compound shall be Type 1D, clear or
25 translucent with fugitive dye.

26 Deliver curing compound in the manufacturer's original clean, sealed containers.
27 Legibly mark each container with the name of the manufacturer, the name of the
28 compound, the type of compound, the manufacturer's batch number, the date of
29 manufacture and the manufacturer's recommended shelf life.

30 Do not use curing compound that has been in storage for more than one year from the
31 date of manufacture or more than the manufacturer's recommended shelf life, whichever
32 is less.

33 **(B) Test Procedures**

34 Curing compound will be tested in accordance with AASHTO M 148, except the size of
35 molds for making test specimens will be approximately 5.5" in diameter by
36 approximately 1" deep, or any other size selected by the Engineer.

37 **1026-3 POLYETHYLENE FILM**

38 Polyethylene film shall meet AASHTO M 171 for white opaque polyethylene film, except
39 that when tested for moisture retention efficiency the loss shall not be more than
40 0.007 oz./sq.in of surface area.

41 **1026-4 WATER**

42 All water used for curing concrete shall meet Article 1024-4 and Table 1024-2. Water from
43 wells, streams, ponds or public water systems may be used.

Section 1028

1 **1026-5 BURLAP**

2 Burlap shall meet AASHTO M 182. Any class of burlap will be acceptable.
3 Use new burlap or burlap that has been used for no purpose other than curing concrete. New
4 burlap shall be free from starch, filler or other substances added during manufacture, or shall
5 be washed to remove such substances before use.

6 **SECTION 1028**
7 **JOINT MATERIALS**

8 **1028-1 JOINT FILLER**

9 Provide a nonbituminous type joint filler that meets AASHTO M 153 for Types I, II or III, or
10 a bituminous type that meets AASHTO M 213. Furnish a Type 3 material certification in
11 accordance with Article 106-3 with each lot of the joint material supplied to each project.

12 **1028-2 HOT APPLIED JOINT SEALER**

13 Provide a hot applied joint sealer that conforms to ASTM D6690 and has been evaluated by
14 NTPEP. Furnish a Type 3 material certification in accordance with Article 106-3 for each lot
15 of the joint sealer supplied to each project.

16 **1028-3 LOW MODULUS SILICONE SEALANT**

17 Provide a cold applied, single component, chemically curing low modulus silicone sealant
18 from the Department’s approved list on the website and evaluated by NTPEP. Acid cure
19 sealants are not acceptable for use on Portland cement concrete. Bond breakers shall meet
20 Article 1028-4.

21 **(A) Silicone Sealant Types**

22 (1) Type NS
23 A non-sag silicone for use in sealing horizontal and vertical joints in Portland cement
24 concrete pavements and bridges. Tooling is required.

25 (2) Type SL
26 A self-leveling silicone used to seal horizontal joints in Portland cement concrete
27 pavements and bridges. Tooling is not normally required.

28 **(B) Requirements**

TABLE 1028-1 PHYSICAL PROPERTIES OF SEALANT		
Property	Requirement	Test Method
Peel	Minimum of 20 lb/in of width with at least 75% cohesive failure	ASTM D903 bonded on concrete block
Movement Capability and Adhesion	No adhesive or cohesive failure after 10 cycles of test movements of +100% (extension) and -50% (compression)	ASTM C719

29 Silicone sealant shall meet the Table 1028-1, ASTM D5893 and shall have been
30 evaluated by NTPEP.

31 Furnish a Type 3 material certification in accordance with Article 106-3 for each lot of
32 joint sealer material supplied to each project. Deliver each lot of sealant in containers
33 plainly marked with the manufacturer’s name or trademark, lot number and date of
34 manufacture.