Summary of Substantive Changes
between the 2009 and 2015 editions of
ASTM D4068, Chlorinated Polyethylene (CPE) Sheeting for Concealed Water-Containment Membrane

Presented to the IAPMO Standards Review Committee on August 11, 2015

General: The changes to this standard may have an impact on currently listed products. The significant changes are:

- Removed the requirement to use a specific type of capillary rheometer for measurement (see Section 4.1)
- Changed the thickness requirement of the test specimen (see Section 5.1)

Section 2.1, ASTM Standards: Updated the referenced standards as follows:
~~*D374 Test Methods for Thickness of Solid Electrical Insulation (Withdrawn 2013)*~~[3]
D5947 Test Methods for Physical Dimensions of Solid Plastics Specimens
D6988 Guide for Determination of Thickness of Plastic Film Test Specimens

Section 4, Materials and Manufacture: Removed the requirement to use a specific type of capillary rheometer for measurement as follows:
4.1 The sheeting shall be made from a compound that contains more than 50 % chlorinated polyethylene resin by weight of total resin content, and the CPE resin shall: (a) contain 38 to 46 % chlorine; (b) be made from a linear polyethylene having a density of not less than 0.95 g/cm^2; (c) be substantially amorphous, having a heat of fusion of less than 0.4 cal/g (1.7 kJ/kg), and (d) have a melt viscosity of 1700 ± 500 Pa·s when measured in ~~an Instron Capillary Rheometer~~ a capillary rheometer at a melt temperature of 190 ± 2 °C, and a shear rate of 150 ± 10 ¯.

Section 5, Physical Requirements: Changed the thickness requirement of the test specimen as follows:
5.1 The sheeting shall have an average Shore-A hardness of 76 ± 6 points when ten specimens taken equidistantly across the width of the sheet are tested in accordance with Test Method D2240, using a Type A durometer and reading durometer hardness after 5 s of presser foot contact with the specimen.
~~*The thickness of the specimens shall be as manufactured.*~~

5.1.1 The thickness of the test specimens shall be 0.24 in. (6.0 mm) minimum unless it is known that results equivalent to the 0.24 in. (6.0 mm) values are obtained with a thinner specimen.
5.1.2 The test specimen shall be of solid construction
5.1.2.1 A specimen composed of plied sheets is permitted if it has been shown the results are equivalent to a solid specimen.
NOTE 2—Plied specimens may not agree with those made on solid specimens, as the surfaces of the plied specimens may not be in complete contact.

5.1.3 The lateral dimensions of the specimen shall be sufficient to permit measurements at least 0.48 in. (12.0 mm) from any edge.
5.1.3.1 Measurements are permitted at a lesser distance from an edge if identical results are obtained as 5.1.3.

Section 9, Dimensions and Permissible Variations: Editorially revised the temperature conversion of 3.6 °F From 3°C to 2.0 °C as follows:
9.1.2 The length of the sheeting after unrolling and relaxing for 10 min at 73.4 ± 3.6°F (23 ± ~~3°C~~)2.0 °C) shall be no less than that specified in the purchase order or contract.

Section 13, Specimen Preparation: Changed the allowable relative humidity deviation from 50 ± 5% to 50 ± 10%.

Section 14.10, Thickness: Changed the standard referenced for the method of measurement as follows: Measure a minimum of five specimens obtained from locations equidistant across the width of the sheet in accordance with ~~*Method C of*~~ Test Methods ~~*D374*~~ *D5947 or Guide D6988*. Report thickness as an average of all specimens measured.

Section 15, Inspection: The inspection requirements specified in this section were removed as follows:
~~*15.1 Inspection of material shall be made as agreed upon between the purchaser and the seller.*~~

Annex A1, Microorganism Resistance (Soil Burial) Test: Changed the allowable relative humidity deviation from 50 ± 5% to 50 ± 10%.

Table 3, Bonded Seam Requirements: Clarified that the Grade 1 and Grade 2 specifications for the bonded seam peel strength (T-peel) are minimum requirements.