



**Summary of Substantive Changes  
between the 2012a<sup>e1</sup> and the 2013 editions of  
ASTM D2513, “Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings”**

**Presented to the IAPMO Standards Review Committee on July 8, 2013**

**General:** The changes to this standard should not have an impact on currently listed products. The changes are:

- Added the requirement that manufacturers shall, upon request, supply data for Code E material to verify stability against deterioration from unprotected UV exposure. (see Section 4.10.2)

## 2. Referenced Documents

2.1 ASTM Standards: Added referenced standards for the testing, and evaluation to determine the time effects of outdoor weathering and unprotected UV exposure, on plastics, as follows:

[D1435 Practice for Outdoor Weathering of Plastics](#)

[D2565 Practice for Xenon-Arc Exposure of Plastics Intended for Outdoor Applications](#)

[G155 Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials](#)

4. Materials: clarified that Code C material shall be considered stabilized for 10 years without testing, and added the requirement that manufacturers shall, upon request, supply data for Code E material to verify stability against deterioration from unprotected UV exposure as follows:

[4.10.1 PE compounds designated as Code C containing 2 to 3% carbon black shall be considered stabilized against deterioration for not less than 10 years without the need for additional testing.](#)

[4.10.2 PE compounds designated as Code E shall be considered stabilized against deterioration from unprotected exposure to UV for not less than 3 years when meeting the following criteria following exposure to actual outdoor \(natural sunlight\) weathering for up to 3 years in accordance with Practice D1435 or accelerated weathering in accordance with Practice D2565 and Practice G155 for the equivalent of at least 3 years natural sunlight: \(a\) all tensile bar specimens tested in accordance with Test Method D638 shall have an elongation at break value greater than 400% indicating the equivalency of the PE material before and after UV exposure against the elongation at break requirement in Specification D3350; and \(b\) all tensile bar specimens tested in accordance with Test Method D638 shall retain a minimum of 50% of their original elongation at break values. Test data shall be made available from the manufacturer upon request.](#)

[NOTE 6—Studies have shown HDPE exposed to Xenon Arc via Practice G155-A Cycle 1 give approximately 4.4 times the acceleration to outdoor Florida exposure. Therefore approximately 2000 hours Xenon Arc testing would equal about 1-year outdoor exposure in Florida or 2-years in southern Canada.](#)

[NOTE 6—The determination for outdoor storage resistance](#) [NOTE 7—The determination for UV resistance](#) is often based on measuring the ductility proper...