

Durability Issues: Test Method and Standard Development

Theresa A. Weston, PhD.

Dupont Building Innovations

Chair of ASTM E06.22.09 Task-Group on Durability of Air and Water Barriers

ABSTRACT

Exterior membranes that function as weather resistive barriers and/or air barriers are usually specified based on their as-produced properties. During construction and the service life of a building, however, exterior membranes are subjected to environmental conditions that can cause reduction in material properties. The exposure during construction is higher intensity but of much shorter duration than that during the service life of the wall system. Few if any standards exist to evaluate the response of material properties to environmental exposure. This situation is further complicated because both the exposure and the performance of the product is significantly affected by installation practices. A task-group has been initiated at ASTM to develop standard test methods and specifications pertaining to the durability of air and water barriers. As standard test methods are developed, the environmental loads being considered include mechanical stresses (such as those imposed by wind forces or building movement), lack of compatibility with other materials, UV/thermal exposure, and cyclic wetting and drying.

THERESA WESTON conducts building science research and product development for DuPont Building Innovations. Theresa has developed and introduced to market several new products. She participates in industry research programs and in standards and codes development. Theresa has over 15 years experience in materials and fiber development and is an inventor of three U. S. patents with an additional patent pending. Theresa has a Bachelor of Science in Chemical Engineering from the Massachusetts Institute of Technology, and Masters and Doctorate degrees in Chemical Engineering from the California Institute of Technology. Theresa currently chairs the Membrane Research Coordination Council and is a member of the BETEC Board of Directors. Additionally, she sits on the Board of Directors of the Energy and Environmental Building Association (EEBA) and is actively involved with many professional organizations, including A.S.H.R.A.E., A.S.T.M, and the Fiber Society.

Theresa A. Weston
Research Associate
DuPont Von Wovens
Spruance Plant, POB 27001
Richmond, VA 23261
804-383-4031
804-383-3109 (fax)
Theresa.a.Weston@usa.dupont.com