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Preparation of fragile filter media for porometry testing

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Category: 2 Filter Testing

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As fragility of media continues to increase primarily due to decreasing fiber diameter and media thickness, porometer testing can sometimes be quite tedious for certain samples, whether they are nanofibers or thin membranes (e.g track-etched). The rel- ative weak nature of the media's internal structure can complicate the handling and testing of the material. Most manufacturers have used scrims to provide structural support for the fragile media for process conditions. Although the scrims provide adequate support in the filtration application, they do not necessarily improve the handling necessary for testing. Even with the improved structural integrity, the media is susceptible to static electricity build up, tearing, and stretching without careful handling. At high compressive load during porometry, damage can occur to the samples thereby producing misleading results. We address measures to safely handle samples and operate porometers when working with fragile media.

Key words: porometry, filter media, characterization