



S1.1.2 - An Outline of Current Face Covering Performance Requirements and Testing

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Medical face masks and respirators have taken the spotlight during the current pandemic. With the increased emphasis on wearing of face coverings an understanding of the testing required for approval of these products is imperative. An understanding of the difference between these two products and the test methods used to prove compliance is important for choosing the appropriate product to ensure the right mask is used for each purpose. Test methods can range from simple air differential tests to complicated bacterial filtration efficiency tests; each of these tests gives important information about the functionality of the product.

Medical face masks are manufactured and tested with the patient in mind, and testing demonstrates this. Testing for these products is directed toward expected conditions in a medical environment and includes bacterial filtration efficiency testing, flammability testing, and synthetic blood penetration testing. NIOSH approved respirators are generally used in industrial settings and are meant to protect the user. Testing for these products focuses more on expected conditions when protection is needed from small particulates. In addition, a third type of face covering is now suggested by a newly published ASTM standard. Testing required for compliance with this standard will also be discussed.

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Janelle has been employed at Nelson Laboratories for nearly 6 years and is the department scientist in the Protective Barriers department of the company. As an expert in many of the surgical gown and drape and medical face mask and respirator standards, she helps oversee the testing in this section. As convener of ISO TC94/SC13/WG6, she helps lead standard development for testing medical protective clothing. Her presentation will outline the test methods required for both medical face masks and NIOSH approved N95 respirators in an effort to highlight the difference between the two products and their uses. She received a BS in biochemistry from Brigham Young University and an MS from the University of Queensland. She is currently pursuing an MBA at Brigham Young University in addition to responsibilities at Nelson Laboratories.

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