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FUNDAMENTAL STUDIES ON THE PERFORMANCE OF H1 NEEDLEPUNCHING TECHNOLOGY AND PROPERTIES OF NONWOVEN SUBSTRATES

S.S. Ramkumar, C. Roedel, S. Chinnasami, A. Umrani, and L. Shastri
Texas Tech University
Lubbock, TX

The support of the US Army SBCCOM has enabled the initiation of nonwovens research program at The Institute of Environmental and Human Health, TTU using the "state-of-the-art" H1 technology needlepunching nonwoven machinery. Initial studies have shown that technology is capable of developing a variety of nonwoven substrates from natural and synthetic fibers. This paper will focus on the properties of a set of cotton/polyester blended H1 nonwoven substrates. A thorough investigation has been carried out to understand the effect of needlepunching rates on the properties of H1 nonwoven webs. A parallel study has also been undertaken to examine the influence of sliding speeds on the frictional properties of H1 nonwoven webs. The paper will highlight significant results from the fundamental study on the properties of H1 webs.

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