

## Improving the thermal comfort properties of bamboo and bamboo blended fabrics for sports head scarves

**K. Nassar**

Department of Weaving and Spinning, Faculty of Applied Arts, Helwan University, Egypt  
Department of Textile Engineering, Faculty of Applied Arts, Badr University, Egypt  
khaled.mansour@gmail.com (Corresponding author)

**Nahla. M**

Department of Weaving and Spinning, Faculty of Applied Arts, Helwan University, Egypt;

**Abou-Taleb EM**

Department of Weaving and Spinning, Faculty of Applied Arts, Helwan University, Egypt;

### **Abstract:**

In this work, the thermal comfort properties of bamboo & bamboo blended women's head scarves that are worn by females during sports events activities have been investigated. Comfort can be described by the physically relaxed state that is devoid from any pain. Single jersey knitted fabrics samples were produced with the same loop-length from three different types of fibres. The three fibres types were bamboo, cotton, polyester microfiber and their blends with various feeder arrangements. Linear density of bamboo and cotton yarns were 30/1 Ne. Polyester microfiber yarns with Linear density 150 D/144f were used. Results showed that even with same blend ratios, the arrangement of the yarns inside the fabric has an effect on fabric thickness. Moreover, bamboo fabrics scored the lowest weight due to their low specific density, which greatly enhances the comfort levels compared to the other samples. Results obtained show that, Bamboo samples have excelled properties in term of thermal conductivity and Qmax tests compared to other samples.

### **Keywords**

Thermal Comfort,  
Thermal  
Conductivity,  
Bamboo,  
Microfiber,  
Head Scarves

### **Paper History:**

Paper received 10<sup>th</sup> July 2020, Accepted 24<sup>th</sup> August 2020, Published 1<sup>st</sup> of October 2020