



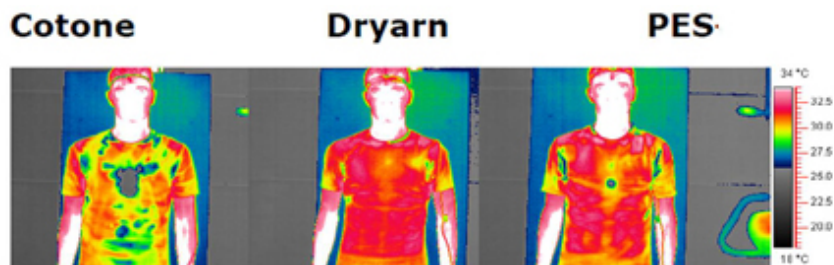
Study on the thermo-physiological comfort of polypropylene thanks to transpiration. Comparison with cotton, polyester and polyamide (nylon)

In 2011, a study was conducted in the Advanced Technology Textile Laboratory (LATT in Italian) located in Biella (Italy), to assess the thermo-physiological comfort of a fabric made of 100% polypropylene Dryarn compared with equivalent fabrics in cotton, nylon (polyamide) and polyester. To this end researchers performed controlled physical laboratory tests as well as testing in a climate-controlled room, with athletes wearing t-shirts made of Dryarn under conditions of high exertion with significant perspiration, and examined the results.

The results showed that fabric made of 100% polypropylene Dryarn is superior to the other fibers analyzed regarding thermo-regulation, transpiration and drying speed. The physical tests showed that polypropylene ensures the best performance in terms of lightness of weight, drying speed and ability to allow perspiration to escape easily. In addition, it is the fiber with the highest comfort index of the analyzed fibers.

In the words of the researchers themselves "athletes wearing the Dryarn t-shirt had a lower heart rate and therefore less cardiocirculatory stress. In particular, the thermo-physiological comfort of the Dryarn t-shirt is principally underpinned by its excellent thermo-regulatory capacity (less variation in skin temperature around the mean value) thanks to its low thermal resistance and its breathability, which allows perspiration to escape from the skin to be rapidly released onto the outside of the fabric. Therefore, the Dryarn fabric guarantees excellent performance both during exercise and during the rest/recuperation phases".

(Study conducted by Barbara Cravello and Roberta Splendore for the Associazione Tessile e Salute (Fabrics and Health Association), and by Ada Ferri and Francesca Dotti for the Polytechnic University of Turin, Department of Chemical Engineering and Material Science).



The thermal imaging shows the perspiration map of the t-shirt in a test phase. The coldest areas (bluish) indicate the presence of perspiration.