"SENSEKNIT" PAVILION

For MADE EXPO 2019, Milano Design Week 2019, Tensinet Symposeum

Senseknit, presented at MADE EXPO 2019, Design Week 2019 and Tensinet Symposium 2019 in Milan, is a sensorial pavilion that combines tradition, innovation and digital culture - key elements of the transformation of the fields of design and construction. The project is a result of an interdisciplinary research at Politecnico di Milano by the Material Balance Research group, SAPERLab and TextilesHUB from the Department of Architecture, Built environment and Construction engineering and the Laboratory of Knitting from the Department of Design.

The aim of the 'Senseknit' pavilion is to use the engineered fibres and the advanced technology of digital knitting to investigate the way how textiles can influence architectural comfort, being at the same time reliable and safe. The pavilion 'SenseKnit' consists of four thematic areas that offer different scenarios of sensorial comfort, thanks to the different types of fabrics produced specially for each area. These areas provide specific performative characteristics; acoustic, climatic, visual and structural. The acoustic comfort is an essential requirement for different contexts, for shared and crowded spaces. The structural performance is enhanced by identifying the areas of textiles exposed to the highest loads and stress and using knitted patterns to offer more load resistance. From the climatic point of view, the knitted textiles are used for the control of air movement to obtain distributed flow. From the optical point of view, the level of openness of the knitted textiles helps to control the level of light and to create desired visual effects, filtrating the light in different modes and intensity.

The proposed scenarios display the potential of digital knitting and technical fibres, as advanced technologies and materials that can revolutionize the way we design and inhabit spaces. This intuitive environmental performance of the knitted textiles, with performative purposes, transforms the ancient tradition of the past into a future perspective.

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MATERIALBALANCE RESEARCH

POLITECNICO
MILANO 1863
DIPARTIMENTO DI ARCHITETTURA,
INGEGNERIA DELLE COSTRUZIONI
E AMBIENTE COSTRUITO