

R&D in the textiles and clothing discipline concerns practical application of science. HKRITA has paid a lot of efforts to develop high-performance sportswear which covers a wide spectrum of the textile supply chain from materials science, to textiles engineering, to fabric processing, to functional assessments and management. By accumulating research knowledge, HKRITA has built up a research cluster on high-performance textile which further facilitates quality projects in efficient manner. To join hands with different sports associations, HKRITA has developed a series of high-performance sportswear which address the real match requirements of athletes.

紡織製衣的研發講求把科技實際應用，香港紡織及成衣研發中心投放資源開發高性能運動服，而這類項目覆蓋廣泛的製衣業供應鏈，例如物料科學、紡織工程、織物處理、功能性評估及管理。藉著累積研發技術和知識，研發中心一方面提升研發效益，建立優質的研發集群；另一方面亦為香港運動代表開發出針對特定運動項目需要的高性能運動服。



Technological Application 技術應用

HKRITA once worked with the Hong Kong Sports Institute to develop rowing suits, cycling and running wear. In these projects, 3D body-scanning was done on every athlete so as to produce tailor-made sportswear. To take into consideration of every sport's characteristics and respective weather conditions during training and competition, the research team conducted a number of tests on fabric strength, fabric abrasion and UV protection. In individual cases, specific tests were conducted with advanced testers developed by HKRITA or the research institutes such as Fabric Touch Tester and Walter™ Sweating Manikin to evaluate special properties of the sportswear.

These projects have:

- identified physiological and biomedical requirements of human body and demand during specific exercises;
- estimated the sportswear function by simulating the thermoregulation of human body, heat and moisture transfer during training and competition and study the biomechanical interactions while wearing the sportswear;
- designed and produced the sportswear collections according to the requirements from thermal physiology, biomechanical physiology and protection; and
- developed systematic evaluation method of the sportswear from fabric material, clothing and implication to the sports performance.

香港紡織及成衣研發中心為香港體育學院先後開發了高性能賽艇服、單車服及跑步服。在這些項目中，研發隊為每位運動員進行三維人體掃描，量度準確的尺寸；考慮個別運動的特性，練習及比賽時的天氣情況，為布料的強度、耐磨性及防紫外光功能上進行所需的測試。有些項目亦採用了織物觸感測試儀或出汗暖體假人等由香港紡織及成衣研發中心或研發機構開發的測試系統為運動服評估所需特性。

這些項目：

- 鑑定個別運動時人體生理及生物力學需求；
- 透過模擬運動或比賽時熱濕生理調節、熱濕傳遞的評估運動服功能，探討服裝和壓力分佈與人體生物力學相互作用的影響，從而預測運動服效能；
- 設計及開發系統化的高性能服裝評估檢測方法；
- 從面料，服裝及穿著後對運動員表現的影響做出綜合評估。

Services 服務提供

Consulting services on the production of high-performance sportswear can be provided, such as devising real match functional requirement of the high-performance sportswear, setting out systematic design criteria, fabrics specification and production approach. Novel evaluation technologies of HKRITA are available to evaluate the performance of the sportswear.

香港紡織及成衣研發中心可提供設計高性能運動服的諮詢服務，例如設計切合實際功能需求的運動服，制定系統化的設計規範、織物規格及生產方法。另外，亦可提供研發中心開發的評估技術為運動服評估性能。

Funding
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