Metabolic cost adaptations during training with a soft exosuit assisting the hip joint

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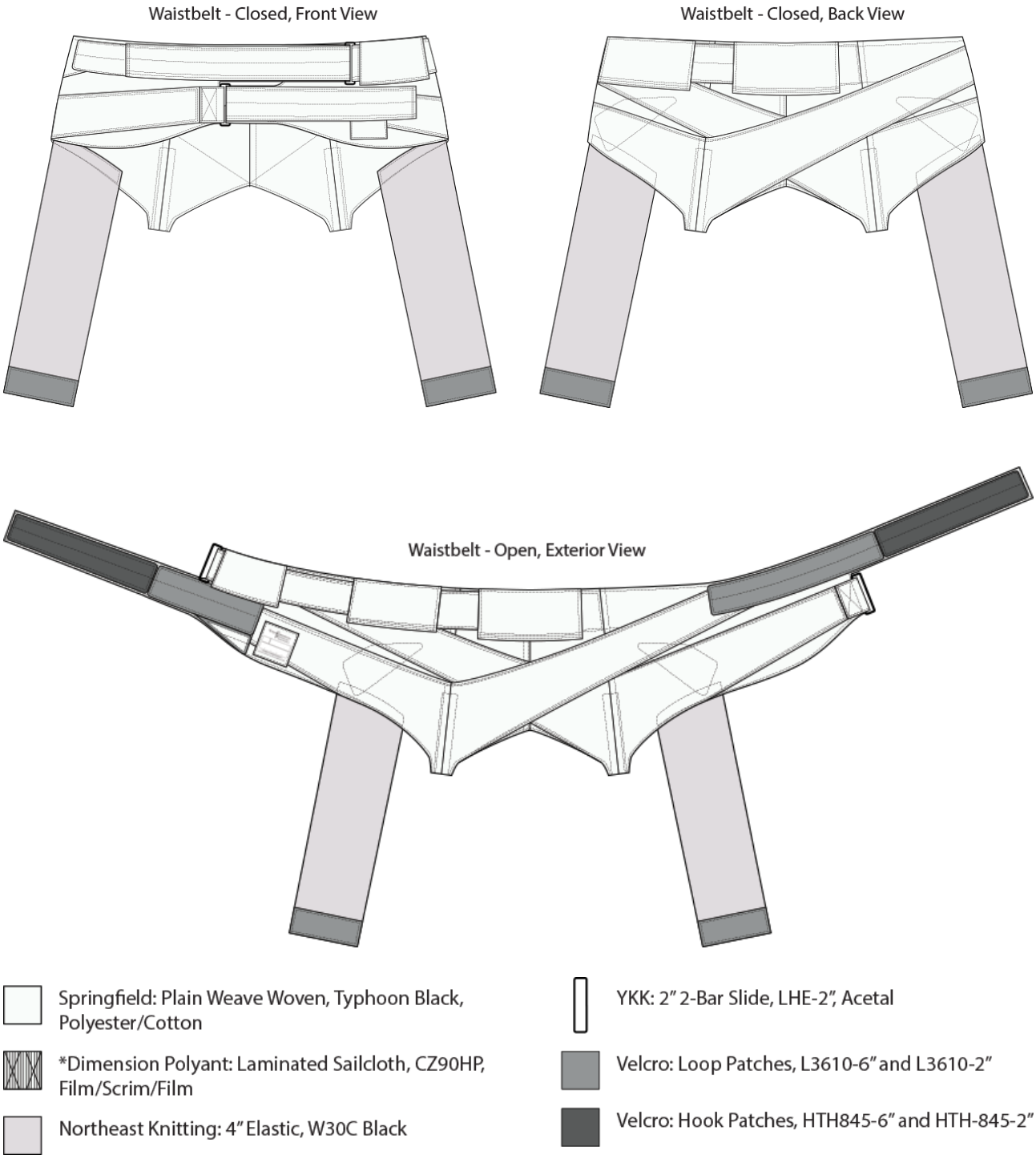
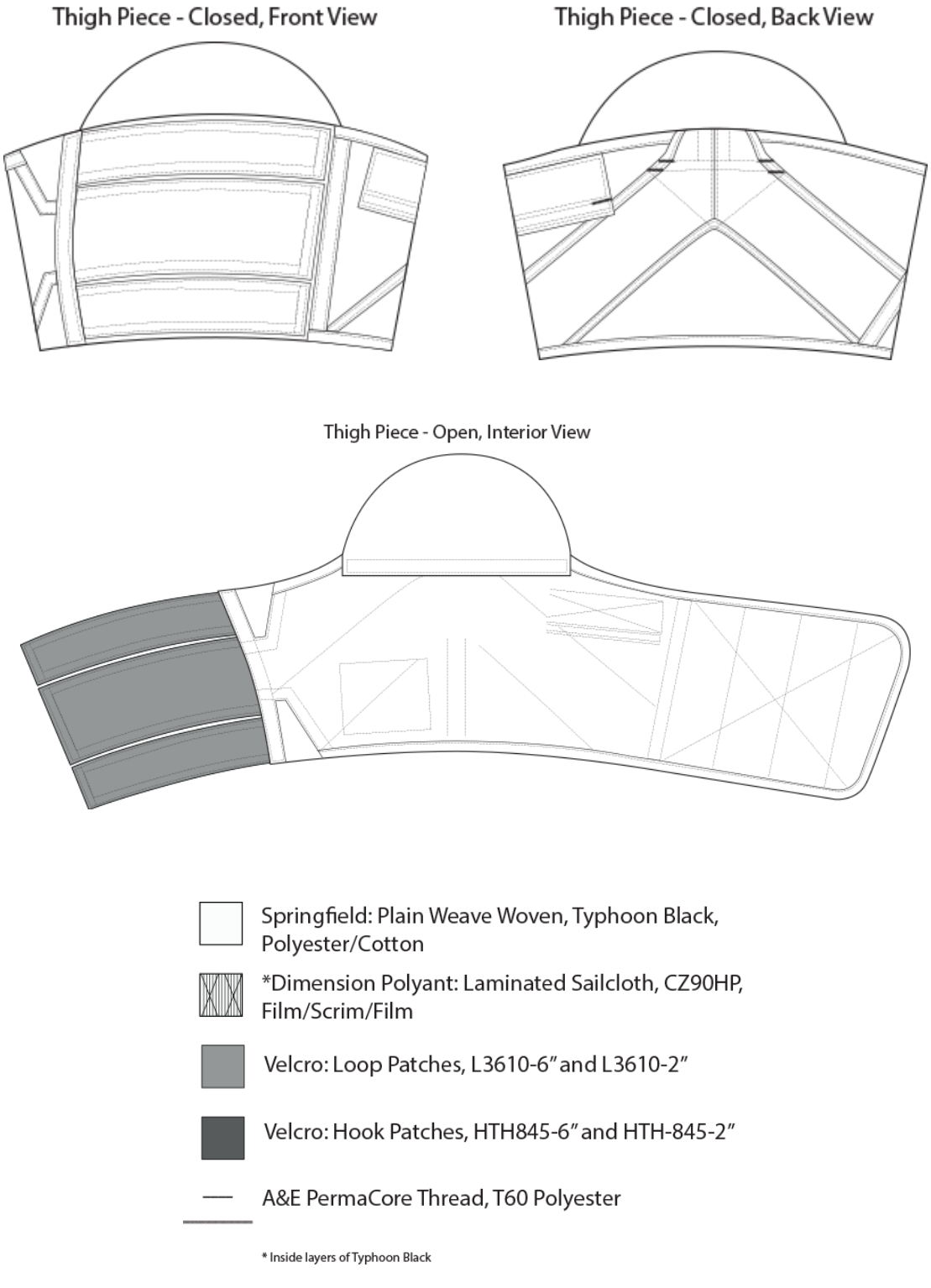


Structure of the waistbelt component. *The waist belt is mainly composed of a plain woven (Typhoon Black, Source: Springfield) sourced to minimize strain. Two different types of Sailcloth Injection Fiber (Source: Dimension Polyant) were used for reinforcement. Hook and Loop Velcro were used for the front closure belts. Additionally, two 2" 2-bar slides were sewn into the closure of each belt. The front closure belts route through these 2-bar slides, allowing the user to adjust the fit and compression of the waistbelt. Attachment points and reinforced load paths can be seen on the back of the waist belt, used to assist hip extension. The 4" elastic strips (Source: Northeast Knitting) at the side seams of each belt are designed to attach to the thigh braces.*



Structure of the thigh piece components. *Like the waist belt, the thigh pieces are mainly composed of a plain woven (Typhoon Black, Source: Springfield) and two different types of Sailcloth Injection Fiber (Source: Dimension Polyant). An attachment point can be seen below the half-moon shape, a guard between the attachment point and the user's center back thigh. The rectangular shape to the left of the attachment point contains hook Velcro patches that receive the 4" elastic strips on the waistbelts (Source: Northeast Knitting). Each thigh brace has two segments of smaller elastic next to its three closure tabs, which allow the thigh brace to conformally curve around conical thighs. The three-tab closure system has loop Velcro, which wraps around the thigh and secures to hook Velcro.*