



## SOCKS

The Hanesbrands R&D team accepted the challenge to develop socks that stand up to brutal conditions on Everest. We designed an innovative inner sock and an insulating layer sock, both designed to work in concert with each other and the outer boot to keep our climbers' feet warm in extreme conditions.

### Inner Socks

- ▶ Made from Duofold Clima phase-change material (cellulosic yarn made of liquid-filled micro capsules that absorb, store and return heat by changing from solid to liquid and back)
- ▶ Adapt to the microclimate of the human body to wick away moisture and moderate temperature
- ▶ Absorb and store excess heat, releasing it when feet become cold
- ▶ The unique characteristics of the material remain intact wash after wash

### Outer Socks

- ▶ Primarily for insulation
- ▶ Made from wicking wool-blend fabric
- ▶ Wicks away moisture from the skin to a breathable boot



## BASE LAYER

To create a comfortable and durable base layer, the Hanesbrands R&D team combined multiple knit techniques – six constructions per garment – and more than 100 years of Duofold base layer innovation to create the form-fitting Duofold seamless base layer top and bottom.

- ▶ Synthetic spandex-blend fabric provides tremendous stretch in all directions without getting out of place or confining the wearer
- ▶ If we marketed this garment commercially, only two sizes would need to be sold
- ▶ Built-in moisture management and anti-microbial yarn inhibits odor, bacteria, mold and mildew
- ▶ Variable insulation areas – higher insulation (such as the exposed area on the outside of the arms), lower insulation (where the backpack sits on the upper back) and high moisture transport (such as in the armpits and lower back)
- ▶ Revolutionary flat-stretch construction combines yarns that create “zonal performance,” a quality where different areas of the garment help it meet the specific needs of different areas of the body
- ▶ Full-gusset armpits and crotch for support and breathability
- ▶ Tighter rib-knit construction (calf, back of knee, to ankle) for compression and support



## INSULATION LAYER

Insulation works in tandem with wicking and breathability to keep a climber comfortable and functioning. The insulation layer creates a layer of air to help the body retain heat in extreme conditions.

- ▶ Uses Optimer Brands' Dri-release wicking polyester with wool fabric to provide significant insulating properties, superior stretch and four times faster drying than wool alone
- ▶ Naturally antimicrobial
- ▶ Works in tandem with base layer fibers to prevent catching, picking and snagging
- ▶ Despite being a heavier-weight version of Duofold's Varitherm High Performance Wool base layer sold commercially, it's thin enough to prevent binding and allow mobility
- ▶ Lock-down zipper garage prevents metal contact with skin at the neck
- ▶ The versatile and discrete thumb-hole doesn't bind and is integrated into the cuff
- ▶ All seams are positioned to prevent overlap with seams of other layers



## SOFT SHELL

The Hanesbrands R&D team designed the Champion soft shell to be the most versatile, lightweight garment our climbers will wear. Worn everywhere from the airport in Kathmandu to the summit of Mount Everest, the soft shell's primary purpose is to insulate, but it also manages body temperature and moisture exceptionally well while protecting climbers from wind, snow, and cold.

- ▶ Jacket (made of three layers):
  - water-repellent and wind-resistant knit outer layer that is new to the market
  - breathable vapor membrane middle layer
  - thermal grid fleece inner layer
- ▶ Special fabric helps minimize abrasion, pilling, and picking – making it easy to wear other layers on top of it and keep from snagging equipment that our climbers use
- ▶ The pants feature a soft polymer-coated fleece fabric with a printed-on surface for abrasion resistance
- ▶ Pants: slick feel but still breathable, water-repellant in light rain, and wind resistant
- ▶ Pockets providing easy access on the ascent and while carrying expedition gear or backpacks



## HARD SHELL

The Hanesbrands R&D scientists have created a hard outer shell that does it all – it's breathable, weatherproof, and flexible. The shell uses a brand new two-ply stretch-woven fabric that remains pliable at cold temperatures. The mobility our climbers enjoy in each previous layer isn't compromised by a hard shell during extreme cold.

- ▶ Waterproof, windproof, breathable and flexible
- ▶ Micropores channel vapor away from the body while keeping water and wind out
- ▶ Lightweight stretchable two-ply knit fabric with laminated membrane
- ▶ Jacket: arm pit zips, stretch cuffs (adjustable for gloves), and an integrated hood that can be tightened down
- ▶ A thin foam insert prevents jacket creep up a climber's back when wearing a pack belt
- ▶ Articulated knee (with removable knee-pads) allows greater ease of movement
- ▶ Double zippers – placed behind the hip for comfort when sleeping – help ventilate or allow easy removal, even while wearing crampons
- ▶ Ergonomically-placed, silicone-sealed zippers and ingenious pass-thru zippers reach soft shell pockets on both the jacket and pants