



# ADVANCED COTTON TECHNOLOGY

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ENGINEERED CONSTRUCTIONS



**ACTIVE**  
enhanced · engineered · embellished

# COTTON: ENGINEERED TO INSULATE

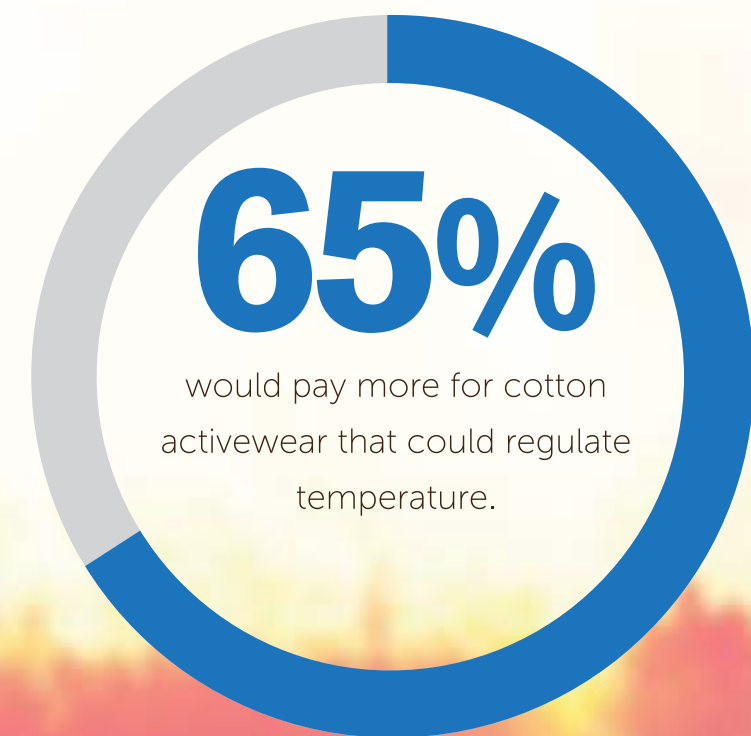


Cotton fabrics can be uniquely engineered to increase loft and trap air, significantly improving the overall insulating capacity of cotton. Designed for active and outdoor markets, insulating cotton fabrics naturally protect against wind and provide thermal regulation while maintaining comfort. Coupled with topical finishes, coatings or laminated layers, these fabrics can be further enhanced to offer complete moisture management and water-repellent protection, keeping you dry and warm.

# COTTON

## *WHEN THEY DEMAND MORE*

Consumers' expectations for performance in activewear extend beyond moisture management and odor resistance. Thermal regulation tops the list of properties that consumers are now demanding to enhance their performance. Cotton fabrics can be naturally-engineered or technologically-enhanced to offer all of these properties and more to consumers for their active and outdoor apparel.



# NATURAL INSULATING PERFORMANCE OF COTTON

Two unique fabric constructions can be engineered to offer consumers insulating properties of thermal and wind resistance in cotton.

Single knit jacquard blister  
Double knit spacer

## MAXIMUM WARMTH

*INCREASED LOFT CREATES WARM MICROCLIMATE*

## SUPERIOR COMFORT

*SOFT HAND AND STRETCH*

## EASY CARE

*MACHINE WASHABLE AND WASHES CLEAN*

## UNIQUELY CONSTRUCTED

*ENGINEERED WITHOUT FUNCTIONAL FINISHING*

## ADVANCED PERFORMANCE

*ENHANCED THROUGH FUNCTIONAL FINISHING TO OFFER ADDITIONAL PROTECTION*

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# WHAT MAKES COTTON INSULATING?

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## Wind RESISTANCE

Air permeability is defined as the amount of air that flows through a fabric, and is a good indicator of a fabric's wind resistance. When a fabric is air permeable in cold conditions, the warm air is exchanged for cold air, lowering the temperature inside the clothing. The lower the value, the less air will penetrate the garment, keeping you warmer.

## Thermal RESISTANCE

Thermal resistance is the resistance to heat transfer, keeping the heat within the microclimate between the fabric and the base layer or skin. Thermal resistance (RCF value) can be measured by the sweating guarded hotplate. The higher the RCF, the more resistant to heat transfer and the more insulating.



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# SINGLE KNIT

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# JACQUARD BLISTER

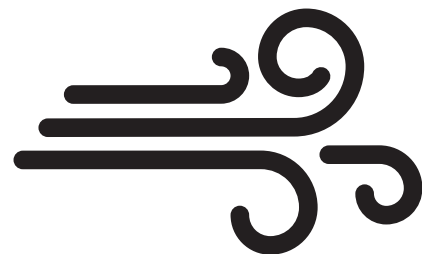
# SINGLE KNIT JACQUARD BLISTER

The technical construction of the single knit jacquard blister creates performance attributes that are beneficial in cold and windy conditions. The technical structure consists of a flat and tightly knitted outer surface and an insulated interior with rippled peaks and valleys.



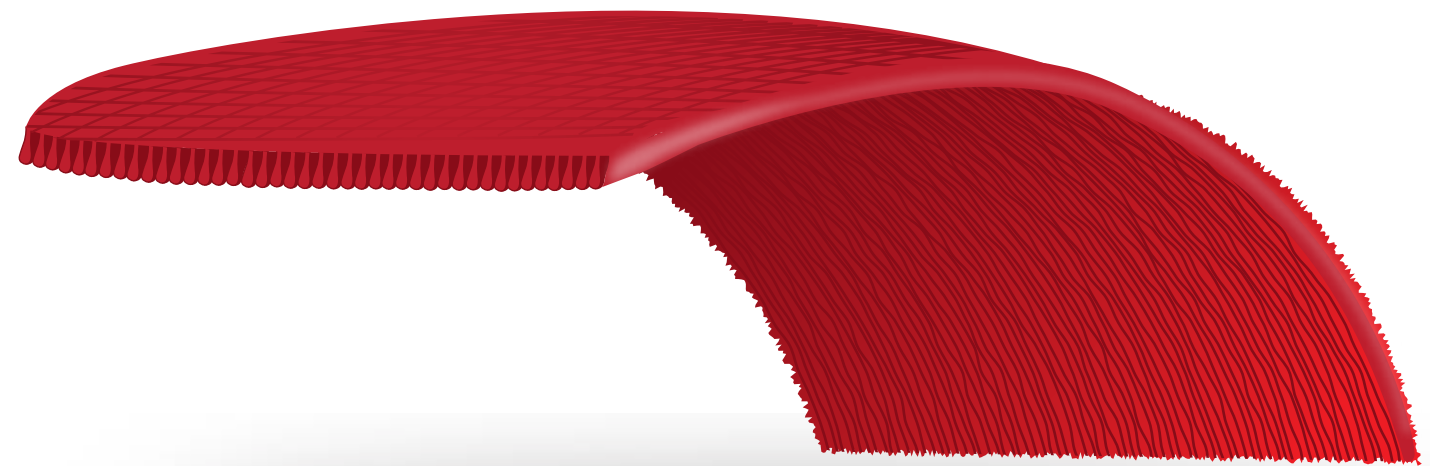
## Wind RESISTANCE

The tightly constructed outer layer reduces the amount of air that can permeate the fabric, creating a high resistance to wind.



## Thermal RESISTANCE

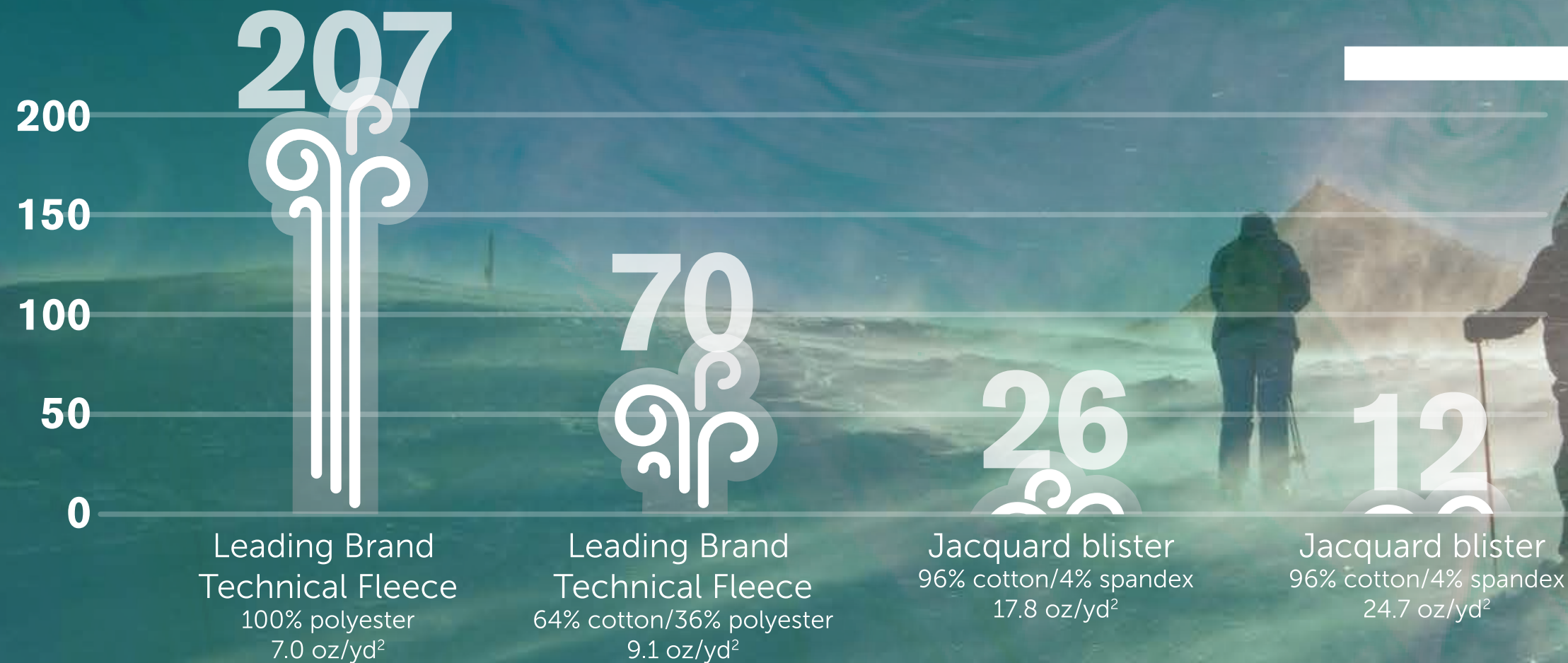
The large amount of surface area created by the numerous folds and grooves trap air and give high resistance to heat transfer.



# Single Knit Jacquard Blister

Air Permeability (cfm)

Significantly less air is able to penetrate the tightly knit outer layer of the jacquard blister compared to competitive fleece outerwear in the market, providing insulation and wind resistance.

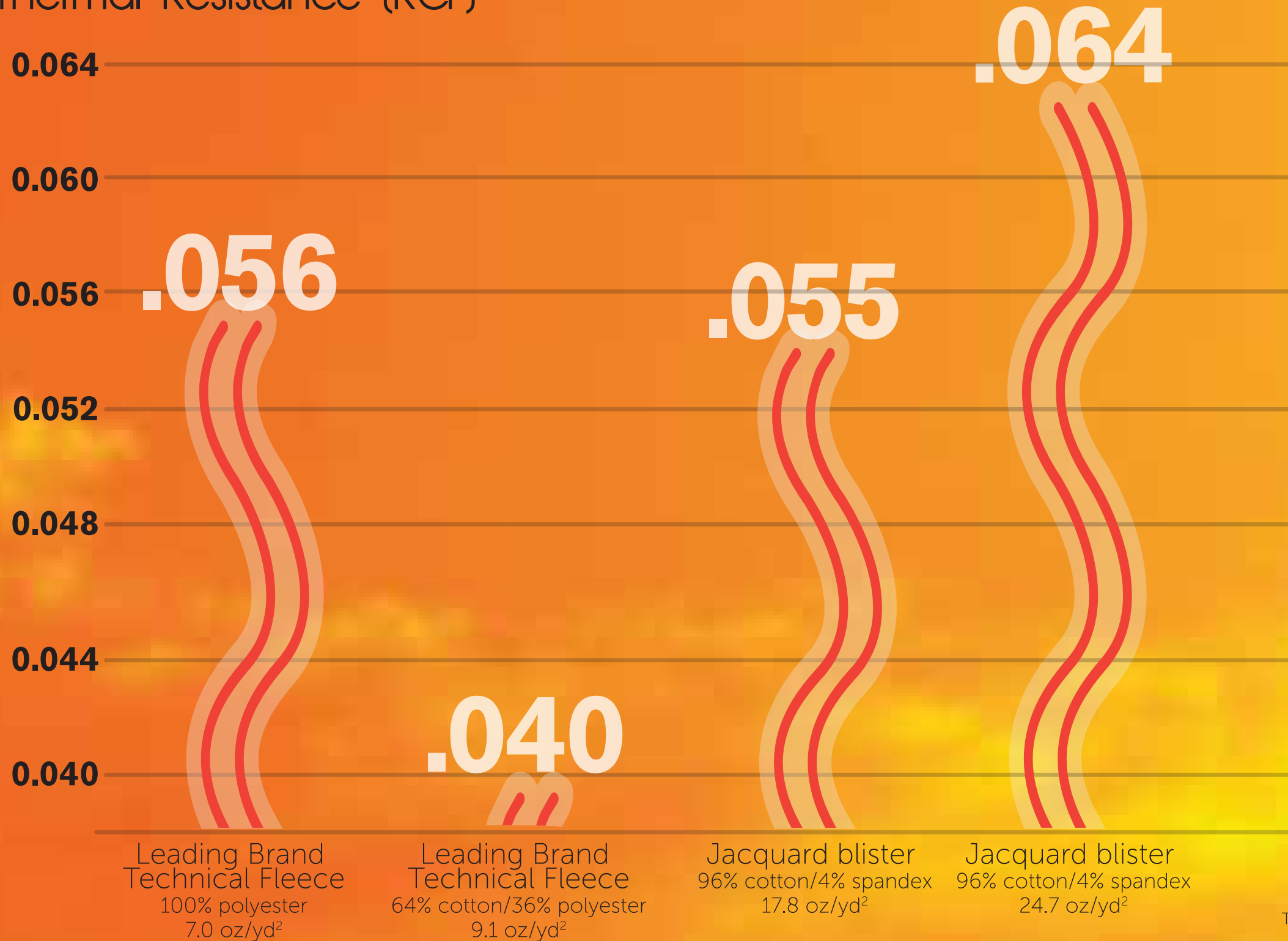


The lower the CFM value, the less air will penetrate the garment, keeping you warmer.



# Single Knit Jacquard Blister

Thermal Resistance (RCF)



Folds and grooves in the fabric construction prevent heat transfer and deliver superior **thermal resistance**, keeping you warmer in cold conditions compared to competitive fleece in the market.

The higher the RCF, the more resistant to heat transfer and the more insulating.

# SINGLE KNIT JACQUARD *BLISTER*



compact ruffle knit  
96% cotton/4% spandex  
17.8 oz/yd<sup>2</sup>



wavy ruffle knit  
96% cotton/4% spandex  
24.7 oz/yd<sup>2</sup>



compact ruffle knit  
96% cotton/4% spandex  
24.3 oz/yd<sup>2</sup>



wavy ruffle knit  
96% cotton/4% spandex  
16.6 oz/yd<sup>2</sup>



discharged wavy ruffle knit  
96% cotton/4% spandex  
16.3 oz/yd<sup>2</sup>

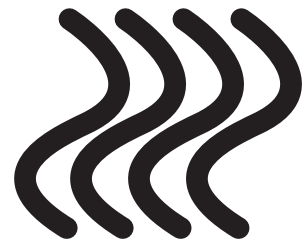


# DOUBLE KNIT SPACER

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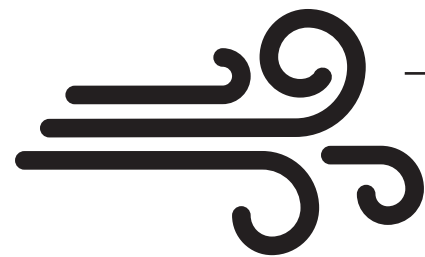
# DOUBLE KNIT SPACER

Double knit spacer fabrics, made from cotton, nylon and spandex, are intended for mid and outer layer garments. Two lightweight fabrics are produced by plating cotton and spandex to create a dense, stretch fabric. These two fabrics are tacked together by monofilament nylon creating a soft, sponge-like, insulating fabric for the activewear market.



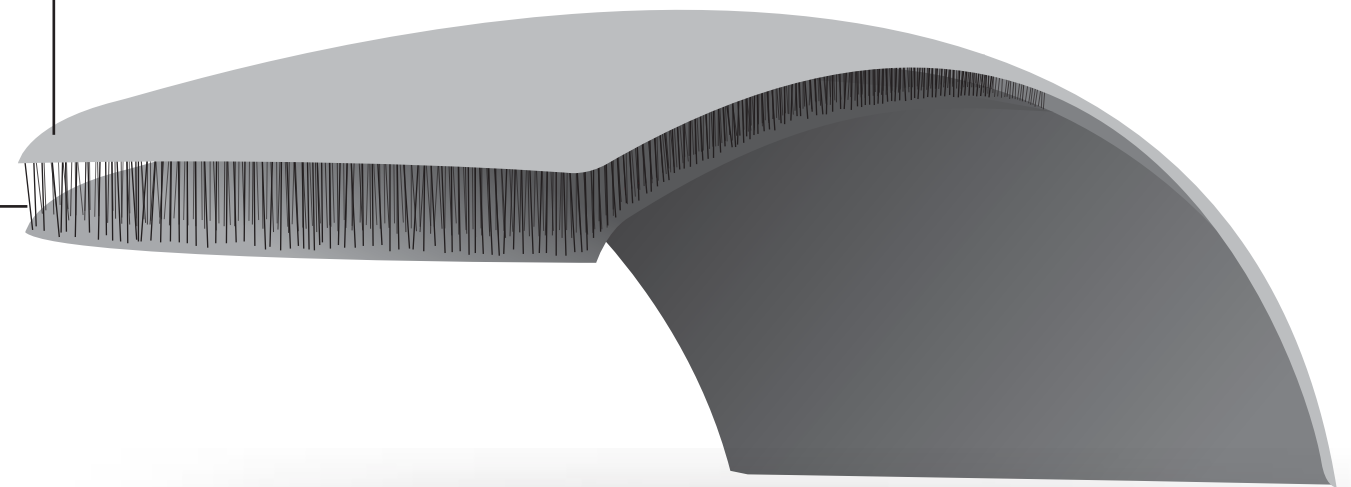
## Wind RESISTANCE

The tightly constructed cotton/spandex outer layer serves as a barrier to wind and other elements. The inner most layer of this fabric is the same construction that helps shield the elements and keep in the warmth.



## Thermal RESISTANCE

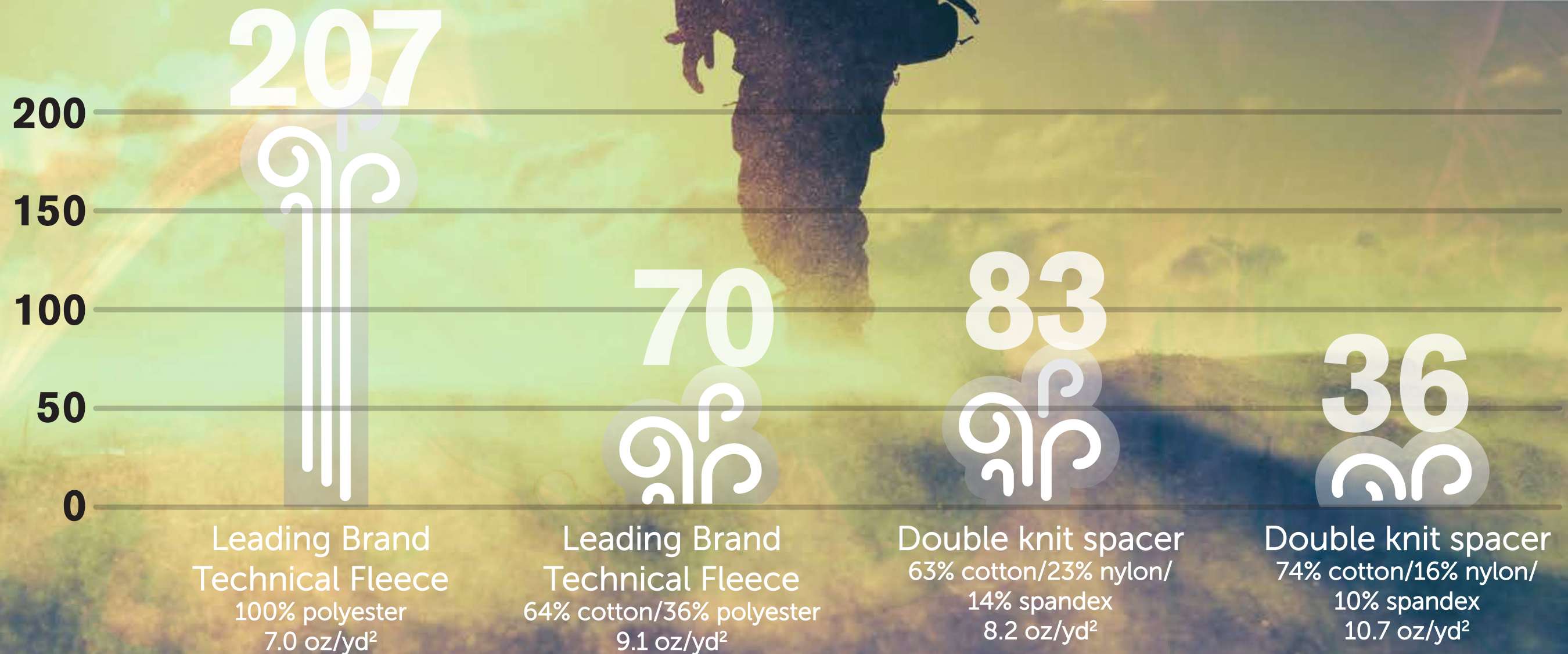
The monofilament that tacks together the outer and inner fabrics serves as an insulating layer creating a warm microclimate that reduces heat transfer and maintains body temperature.



# Double Knit Spacer

Air permeability (cfm)

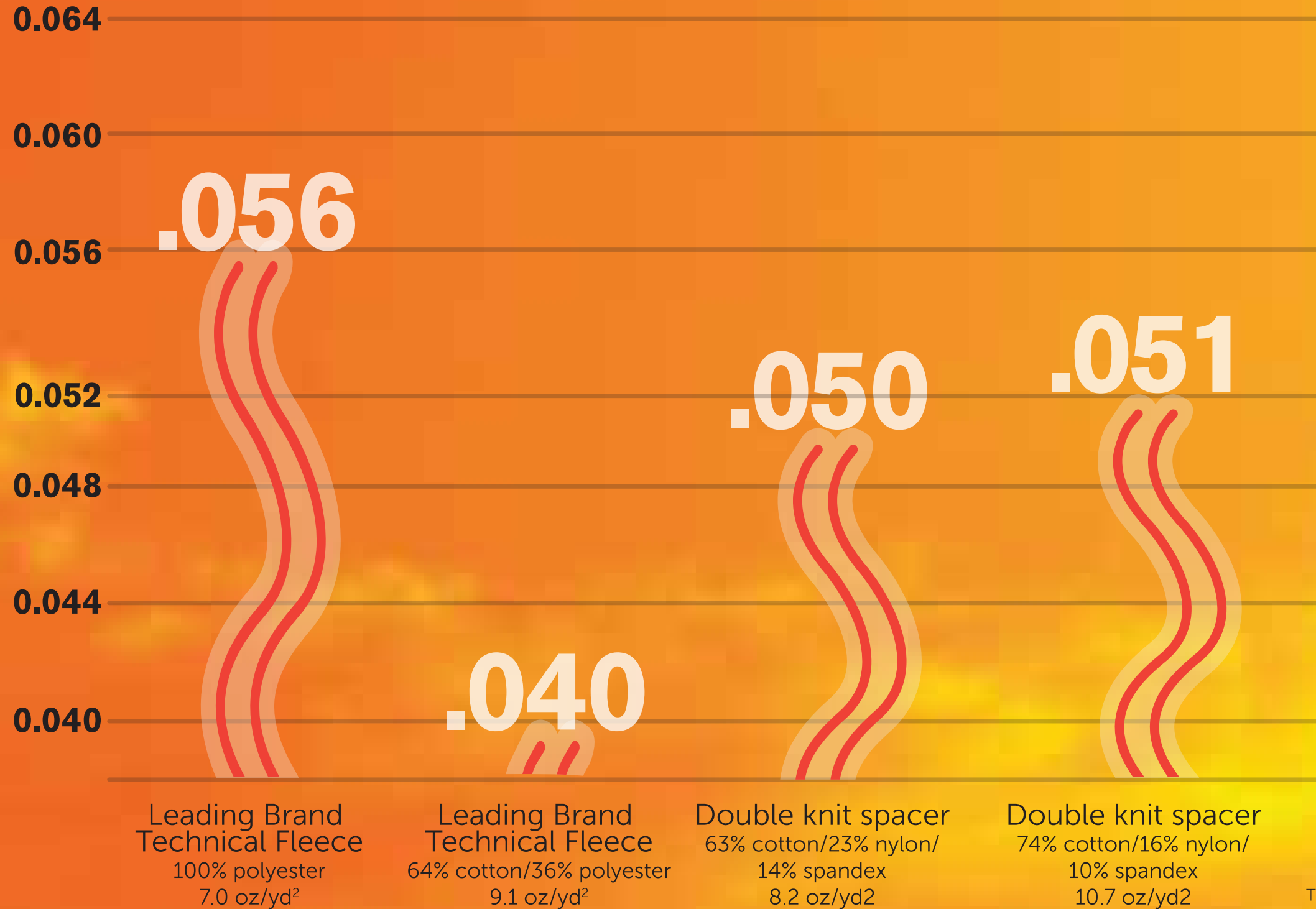
The two layers of the spacer fabric insulate the body and maintain warmth in extreme conditions by providing up to five times more **wind resistance** than synthetic fleece.



The lower the CFM value, the less air will penetrate the garment, keeping you warmer.

# Double Knit Spacer

Thermal Resistance (RCF)



The unique fabric construction creates and protects the microclimate around your body, delivering **thermal resistance** and warmth.

The higher the RCF, the more resistant to heat transfer and the more insulating.

# DOUBLE KNIT *SPACER*



**DK 2728-13**

74% cotton/16% nylon/10% spandex  
10.7 oz/ yd<sup>2</sup>



**DK 2728-12**

67% cotton/21% nylon/12% spandex  
9.9 oz/ yd<sup>2</sup>



**DK 2728-16W**

**WICKING  
WINDOWS™**

63% cotton/23% nylon/14% spandex  
9.5 oz/yd<sup>2</sup>



**DK 2728-16A**

63% cotton/23% nylon/14% spandex  
8.2 oz/yd<sup>2</sup>



**DK2747-1PS**

**STORM  
COTTON™**

80% cotton/12% polyester/8% spandex  
10 oz/yd<sup>2</sup>



Insulating cotton fabrics naturally deliver maximum warmth and comfort during outdoor activities. These unique constructions for mid and outer layer garments offer maximum flexibility in layering and protection against cold conditions.

Single knit jacquard blisters and double knit spacer fabrics can be further enhanced to deliver superior moisture management and water repellency with the addition of Cotton Incorporated performance technologies.

TransDRY®

**STORM  
COTTON™**

**WICKING  
WINDOWS™**

To request samples of insulating fabrics or other engineered constructions, please contact your Cotton Incorporated Executive Account Manager.



Cary, New York, Hong Kong, Shanghai, Osaka, Mexico City

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