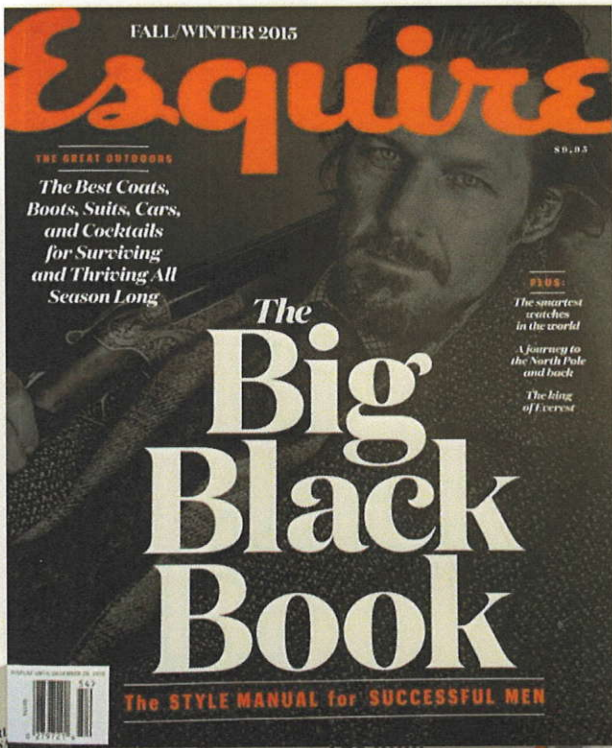
9. 37.5

A fabric technology invented in the 2000s by Cocona, Inc. to make use of the waste of coconut husks from the food-service industry, which would otherwise go to a landfill. The manufacturer burns the coconut, and the activated charcoal fibers are embedded in yarn to increase the material's surface area, thus creating a moisture-wicking effect. *Often found in:* Outerwear, quick-drying performance clothing.



THE INFORMATION

Eureka!

TEN OF THE GREATEST MAN-MADE MATERIALS

1. Fleece
Invented by a Massachusetts textile maker in the late 1970s in collaboration with a then-unknown company called Patagonia. (For more, see page 148.) *Often found in:* Outerwear.

2. Kevlar
Created by DuPont chemist Stephanie Kwolek in 1965 after she realized that paraphenylene terephthalamide and polybenzamide formed a nearly unbreakable fiber. It's used as a soldier's go-to protection from bullets and explosive fragments. It's also flame-resistant, five times stronger than steel, and surprisingly lightweight. *Often found in:* Protective sportswear.

3. Gore-Tex
In 1969, Bob Gore took PTFE (aka Teflon) and rapidly stretched it to make expanded polytetrafluoroethylene (ePTFE). This became Gore-Tex, a material membrane that reached the market in 1976. It contains more than 9 billion microscopic pores per square inch, each pore approximately 20,000 times smaller than a drop of water but 700 times bigger than a molecule of moisture vapor. Translation: Rain can't get in and sweat can get out. *Often found in:* Outerwear.

4. Ballistic nylon
Originally used in World War II flak jackets to protect airmen, ballistic nylon's two-ply weave and filament yarn make it smoother and stronger than other nylons. *Often found in:* Luggage.

5. Nylon
Conceived in the 1930s as an affordable synthetic to replace women's silk stockings, the nylon polymer was created at DuPont by combining hexamethylenediamine and adipic acid, then spinning the strands formed into plastic thread. *Often found in:* Everything.

6. Microfiber
Japanese scientists started developing microfiber materials in the 1960s. The fibers are made from a mix of polyester and polyurethane, and are about half the diameter of a fine silk fiber—much thinner than a human hair. *Often found in:* Sportswear.

7. Ultrasuede
In 1970, Japanese researchers created this material from synthetic fibers so fine they can't be seen by the human eye; they're also so light that a 50-mile strand of them would weigh less than a gram. A mix of polyester and polyurethane, the material is meant to feel like suede but uses no animal products. *Often found in:* Shoes, coats.

8. Aerogel
The lightest solid material known to man was first made by NASA in the 1930s. It's a silica gel that can hold in lots of warm air without transferring heat. *Often found in:* Jackets. (It also insulated the Mars rover.)

9. 37.5
A fabric technology invented in the 2000s by Cocona, Inc. to make use of the waste of coconut husks from the food-service industry, which would otherwise go to a landfill. The manufacturer burns the coconut, and the activated charcoal fibers are embedded in yarn to increase the material's surface area, thus creating a moisture-wicking effect. *Often found in:* Outerwear, quick-drying performance clothing.

10. Pertex Classic
This polyamide (nylon) fabric was created by a British climber named Hamish Hamilton in conjunction with Perseverance Mills in the 1980s. *Often found in:* Sleeping bags and jackets, to keep people dry and warm.

A HISTORY OF PERFORMANCE CLOTHING

Adam and Eve, with their fig leaves, were only the beginning of our quest to make clothes work harder for us

4500 B.C. To stay warm, Stone Age hunters fashion fur pelts from pine martens (critters from the otter family) and even their own domesticated dogs.

1900 B.C. Clothing is first made from fleece sheared from sheep, i.e., wool.

A.D. 1100 European soldiers use protective armor that's made of interlocking iron rings (chain mail) or overlapping scales of iron, bronze, or horn.

Early 1700s Underwear doesn't exist; neither does elastic, so men hold up their socks with ribbon or leather garters.

1730 The wool overcoat enters the picture (and there it stays).

THE HIGH-PERFORMANCE COAT

How does your coat measure up?

1. Adjustable hood that can loosen or tighten depending on weather.
2. Nylon shell with DWR (durable water repellent) coating to enhance water resistance.
3. Water-resistant zippers, the borders of which have been taped to keep moisture out.
4. PrimaLoft insulation.
5. Ventilation system under the arms facilitates temperature regulation and breathability.
6. Microfiber-lined collar warms and goes easy on your face and neck.
7. Adjustable outer cuffs and interior stretch cuffs.
8. Adjustable draw-cord waist.
9. Recco avalanche-rescue system to signal help.

THE CLARIFICATION:
A FEW WORDS ON "WATERPROOF"

THE INVESTIGATION:
HOW DO CLOTHES AND ACCESSORIES GET TESTED?

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