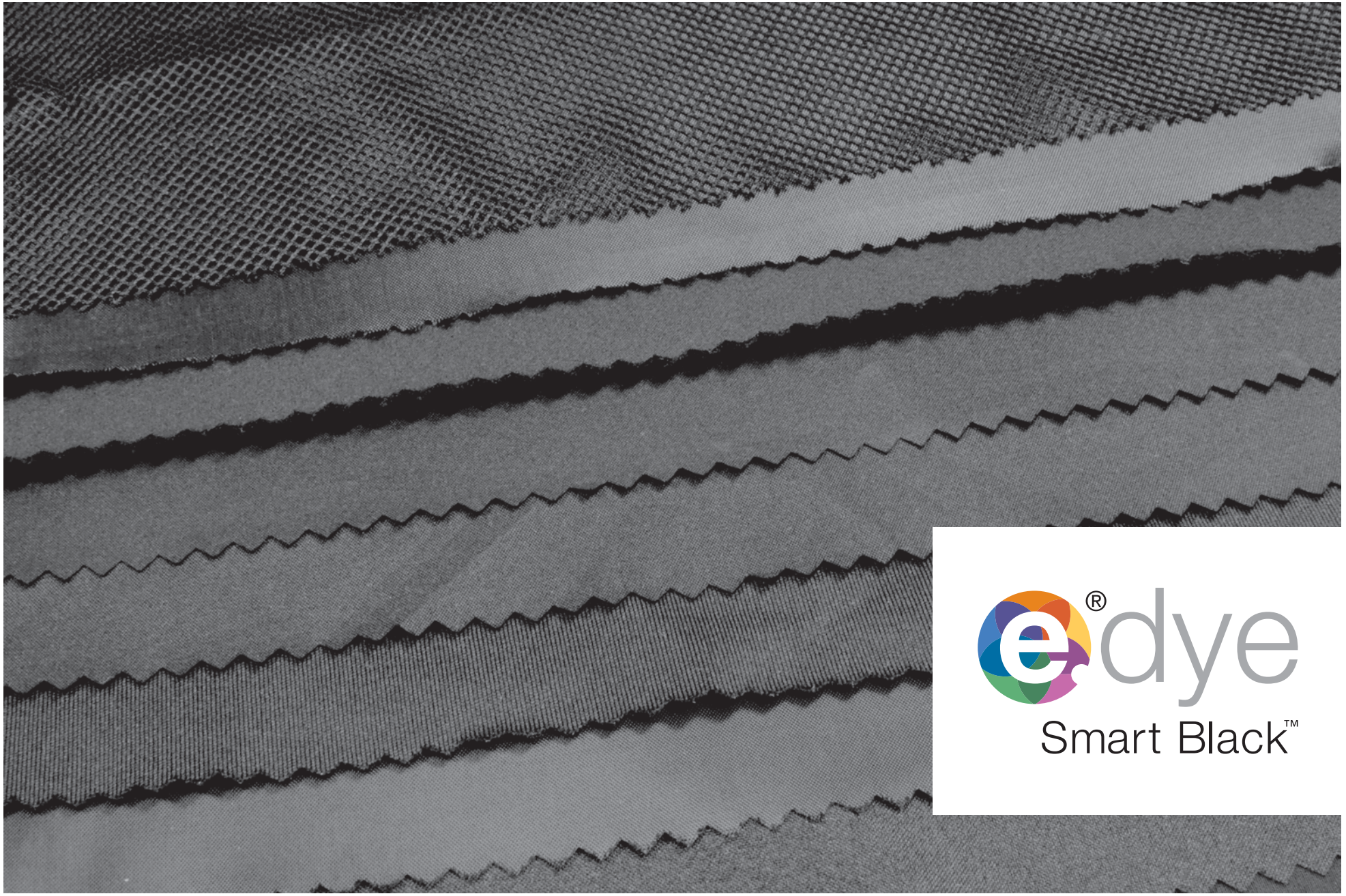


edye®

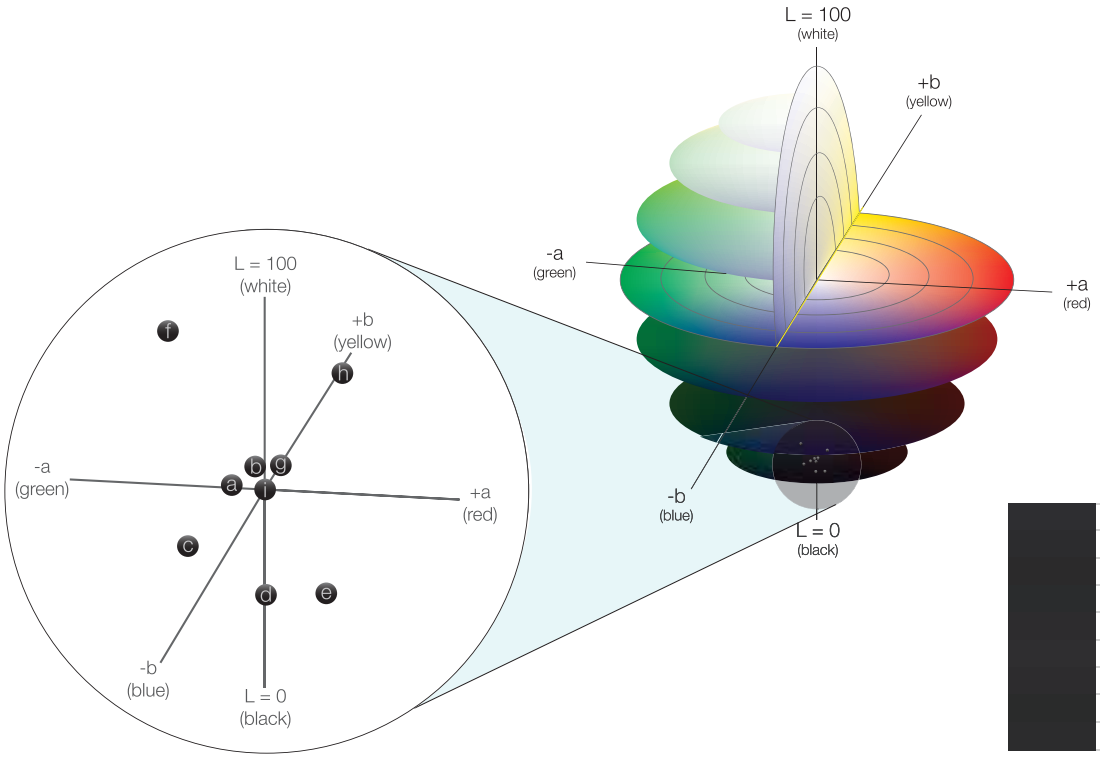
Smart Black™

Smart Black Collection Fact Sheet

Streamlined Color Management

We use the LAB color space to precisely determine a color's data values. The L* axis represents lightness. The A* axis is from green to red, and the B* axis is from blue to yellow.

The C* values represent Chroma of 'saturation.' The h* values correspond to hue; the units are in the form of degrees, 0 to 359.99



	Sample	L	a	b
	a	17.42	-0.39	-2.94
	b	16.28	-0.18	-2.14
	c	15.24	0.43	-1.20
	d	15.74	-0.53	-2.24
	e	16.45	0.06	-1.69
	f	17.20	0.73	-2.11
	g	16.40	0.01	-2.08
	h	15.21	-0.18	-1.30
	i **e**.dye® Smart Black™	16.19	-0.17	-1.40

We created our own black color, Smart Black, to help understand LAB Color space. After analyzing 8 major brand's blacks, we pinpointed the most central black we could find, based on this data.

Using the same e.dye yarn for different products means that lightness becomes the main variation, rather than hue. This results in little to no metamerism issues.

e.dye® Smart Black™

Product designers can pick from thousands of shades of colors to differentiate their brands and match current fashion trends. After a nod to fashion and style, product designers often add black fabric components to complement colors and finish the construction. A technical shell's back panels and corresponding pants or bibs are usually offered in black. A simple, straightforward color. Black is only black, right?

Surprisingly to most people outside of supply chain specialists, black is a complicated color. Although there are dozens of formulas to create the color black, the finished products are often compromised, inconsistent, and using dyeing and manufacturing processes outside of a brand's control. All are dark, but some are bluer, some are redder, some are greener, and some are yellower when compared to each other, or when compared to a theoretical black-point in color space.

"The problem gets more complex when different suppliers are used to create a consistent black with different fabrics. In garment production, there are aspects of color that need to be controlled so the color differences are not seen," says Michael Murphy, sales & marketing, e.dye® Waterless Color System™. "Differences in lightness, greenness, redness, blueness, yellowness, and chromaticity all need to be minimized so that two complementary fabrics such as a velour fabric, or a fleece fabric is acceptable to a very shiny woven cire'd fabric."

Technical apparel brands in the outdoor industry have had a long-standing need for a simple, accurate, reproducible black. Despite years of experimentation, innovation and hard-won improvements, there's still a long way to go to reach that objective.

e.dye® Smart Black™

It’s time for a new way of thinking. The e.dye® Waterless Color System™ uses a proven process known as solution dyeing. By adding the color before the polymer is extruded, the color is inside the yarn. Since the color is inside the yarn, the color is permanent. The colors won’t fade or bleed. e-dye is introducing Smart Black™, a new process to create consistent black across a wide variety of fabrics.

“Smart Black leverages solution dyeing technology and offers the advantages of using pigments instead of dyes for the coloration of polyester yarn and fabric. The e.dye Smart Black™ recipe is 25 times more resistant to fading and migration in polyester than a typical alternative recipe created using a combination of various disperse dyes,” says Murphy.

"The carefully engineered recipe mimics a theoretical perfect black with almost no bias towards any particular cast in typical light sources. We can deliver a dark black that is feasible for color matching in all substrates, because of its inherent lack of cast bias in all major light sources used by retailers. Your supply chain will thank you," says Murphy.

e.dye's Innovation Center in Kunshan, China has created detailed production-ready formulas for more than 3,800 vibrant colors, including black. The e-dye master batch recipe is mathematically derived from pigment and dyestuff formulas and is based on critical machine and material parameters.

For years, the outdoor industry has searched for a way to create consistent, replicable formulas to produce basic black technical fabrics. e.dye's Smart Black™ offers a solution to that dilemma.

e.dye® Smart Black™

For available fabric specs, please contact info@e-dye.com