Textiles

Humanscale®

Textiles Exclusively Designed for Humanscale

Humanscale chairs redefine industry standards, so it's essential that our textiles do, too. Just as our chair's recline mechanism allows sitters to change from posture to posture without the use of locks or levers, the back and fabric must also facilitate freedom of movement.

Such textiles didn't exist in the industry, so we've created them ourselves. We use two types of textiles: mesh and upholstery. To develop them, we partnered with one of the most respected textile designers in the world who worked closely with our product design team to create fabrics that perfectly complement the functionality.

Performing at a Higher Standard

To ensure our textiles will look and perform like new for years to come, we redefined industry standards by creating our own rigorous fabric tests.

Humanscale's standard for durability is 150,000 double rubs — 5x the industry standard.

Elizabeth Whelan, Textile Designer

With a keen eye for Humanscale's guiding principles — function, simplicity and longevity — Elizabeth Whelan was the perfect fit to bring our industry-defining, high-performance chairs to life.

The collaboration between Humanscale, Elizabeth Whelan and Niels Diffrient dates back to the late 90s. Emphasizing the important relationship between the fabric and the chair, Niels believed that the textile is as essential to the chair's performance as its streamlined structure.

Since Humanscale chairs allow sitters to easily change from posture to posture, their cushions and fabrics must also facilitate freedom of movement. This led Elizabeth to design four-way stretch textiles, custom-made upholstery and mesh fabrics that draw inspiration from the chair concepts, as well as nature, fine arts, architecture and movement.

"By embracing functionality, performance and aesthetics, we seek to create fabrics that are supportive, flexible, comfortable, delightful to touch and beautiful."

Elizabeth Whelan

Exploring Structure and Stretch Fabric

For Humanscale, Elizabeth concentrated on how to structure elastic fabric in her weave studies. By drafting her designs and weaving them on a loom, she created prototypes to discover how much elastic was required to achieve the ideal amount of stretch.

CORDE 4

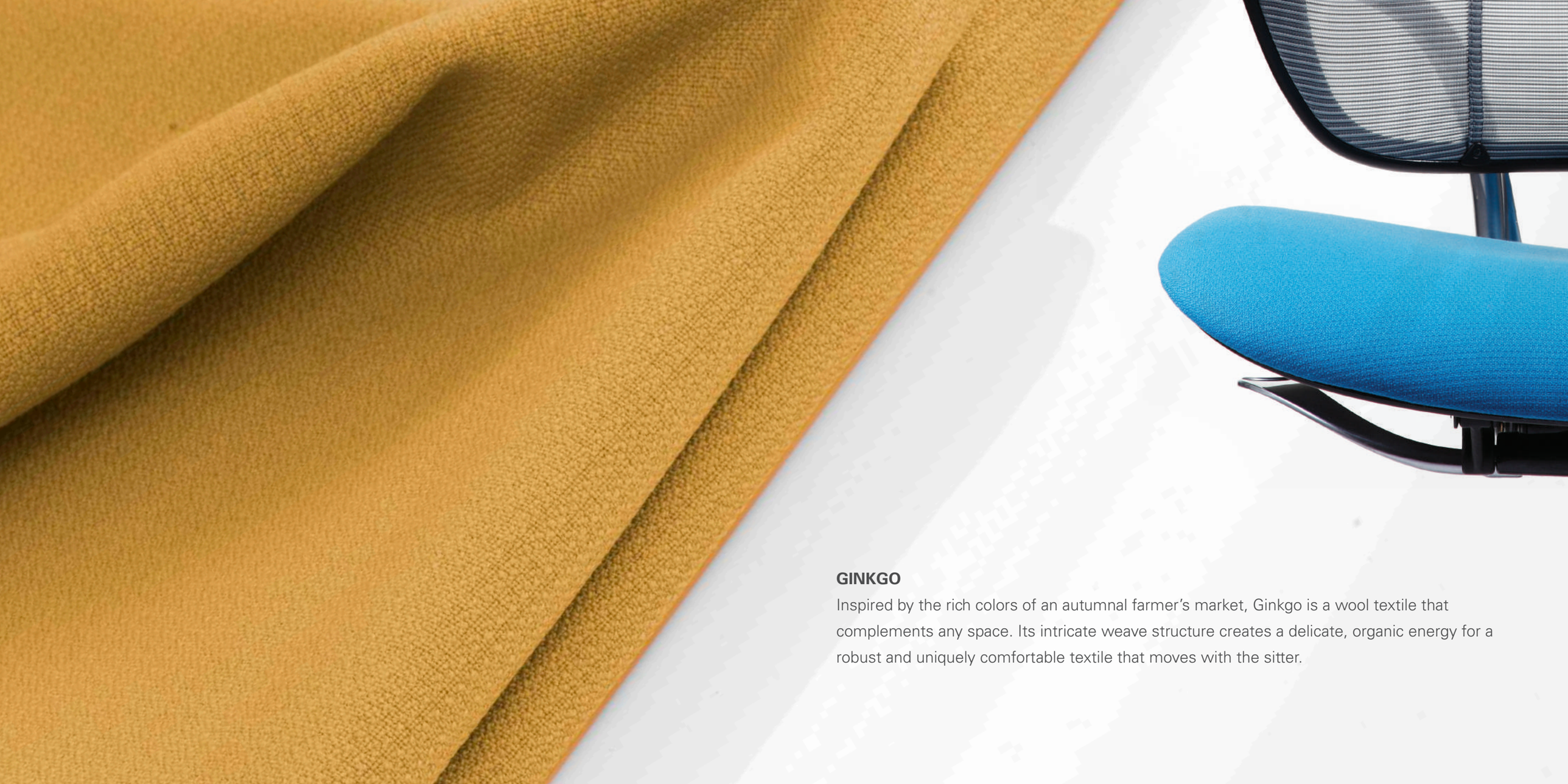
Corde 4 is a four-way stretch design that moves with the sitter as they adjust positions in their chair – helping to provide ultimate ergonomic comfort.

Its intricate weave structure, dimensional surface and wide array of neutral and vibrant shades are visually appealing and engaging to the touch. Corde 4 goes beyond industry testing standards, resulting in greater durability, stability and recovery.

FOURTIS

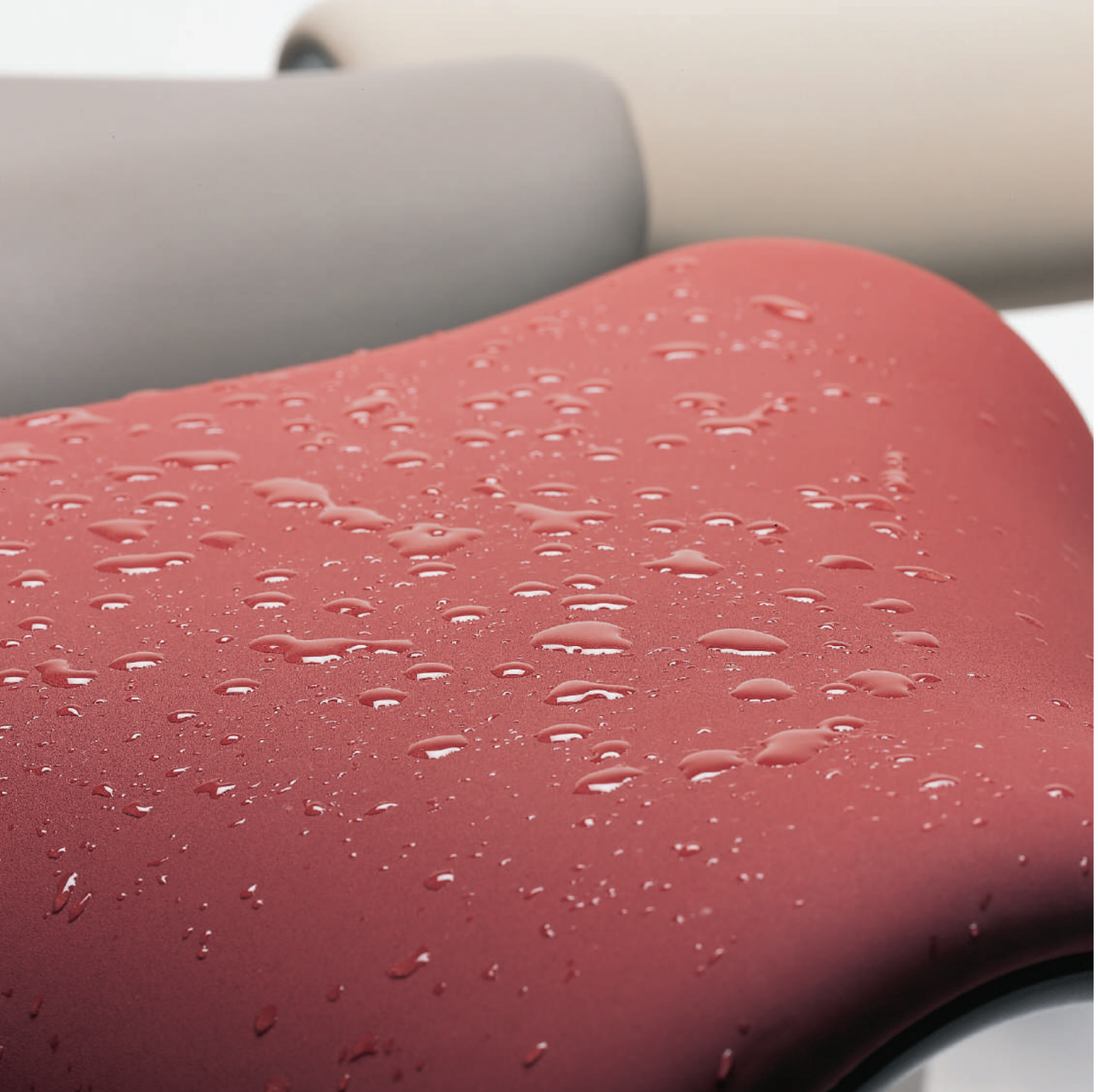
Fourtis is our second four-way stretch fabric that easily conforms to our cushions for the ultimate in comfort and flexibility.

While still adjustable, its satin crepe weave structure is highly durable and creates a strong, high-performance fabric. Fourtis uses satin as the base weave structure to create a smooth surface and two-tonal, tailored look. The black warp yarn creates a smaller shape motif in the fabric – resulting in an intense color relationship with the colored yarn.



GINKGO

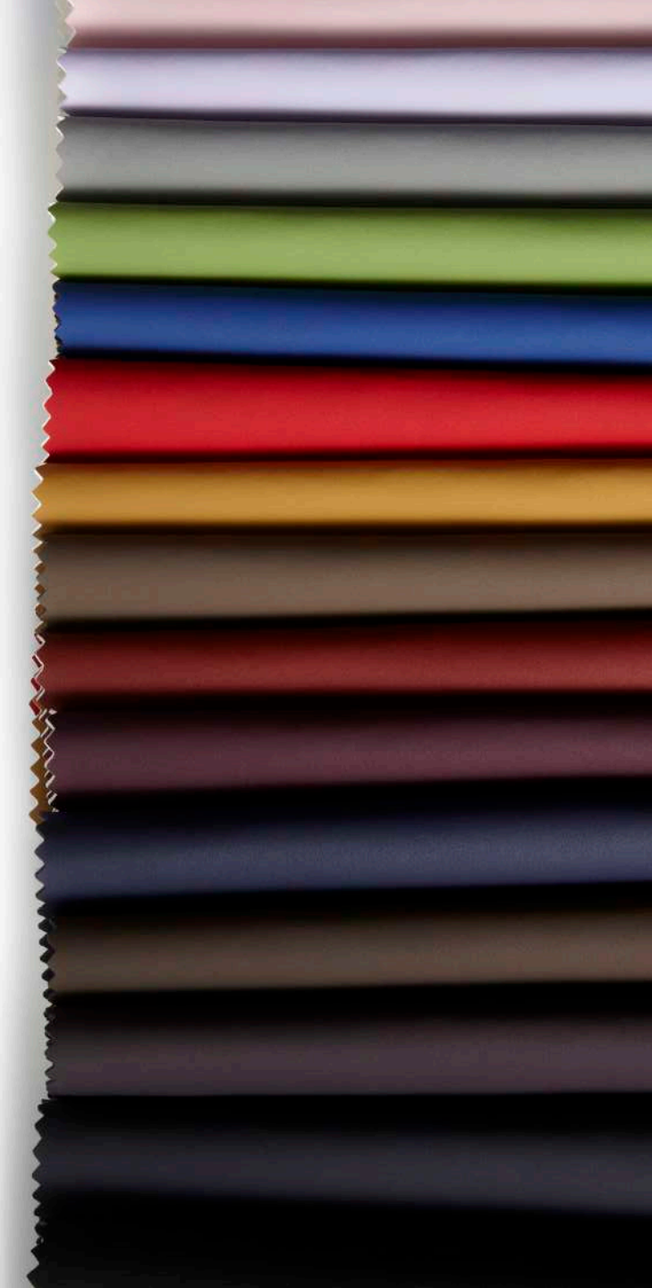
Inspired by the rich colors of an autumnal farmer’s market, Ginkgo is a wool textile that complements any space. Its intricate weave structure creates a delicate, organic energy for a robust and uniquely comfortable textile that moves with the sitter.



LOTUS

Lotus features strong nylon backing and a polyurethane texture to bolster its resilience, durability and endurance.

Ideal for everyday consumer environments such as healthcare, hospitality and retail spaces, Lotus is a water-repellent, antimicrobial, non-slip and PVC-free fabric.



Mesh Fabrics

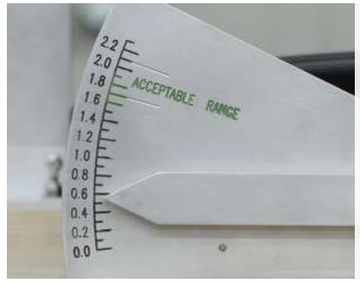
While the industry norm is non-stretch, rigid upholstery and stretch mesh for task chairs, Niels' vision required the exact opposite. He created a tri-panel seat back — inspired by a finely tailored shirt — which required stretch upholstery and mesh with only about 5% stretch.

Elizabeth created a series of customized mesh fabrics that would embody this industry-defining criteria to provide unmatched ergonomic support and naturally adjust to each sitter.

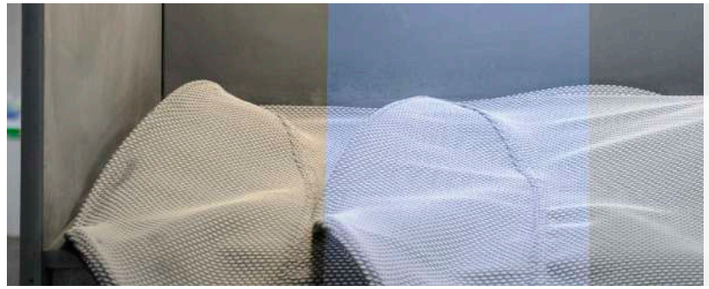
TESTING MESH BEYOND INDUSTRY STANDARDS

Not only do we test fabric upholstery beyond industry standards, but we extend the same consideration to our mesh offerings. Elizabeth and Niels developed the Reverse Wyzenbeek and Sinkometer tests, which evaluate the true human experience with mesh.

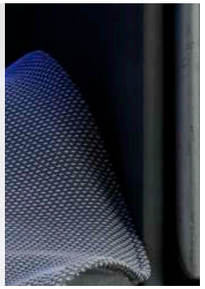
REVERSE WYZENBEEK
While the Wyzenbeek test determines how much abrasion will make a fabric demonstrate "noticeable wear," the Reverse Wyzenbeek test establishes how quickly the mesh will wear out the sitter's clothes.



SINKOMETER
A Sinkometer measures the deflection of a chair by assessing whether a chair can endure weight moving up and down 1,000 times.



COLOR ASSESSMENT
Color Assessment testing demonstrates a fabric's propensity to fade when exposed to light.



“The great thing about working with Niels is that I always had to think about what the end result would be, and then work backwards.”

Elizabeth Whelan

SUSPENSION STUDIES

When Niels Diffrient shared the sketches that would become the Diffrient World chair with Elizabeth, she realized that the seat, not just the back, would be mesh, therefore suspending the sitter in air. The Diffrient World chair relies heavily on its textile to offer support and tension, so Elizabeth created fabrics that embody these qualities, as well as comfort and durability.

MONOFILAMENT STRIPE

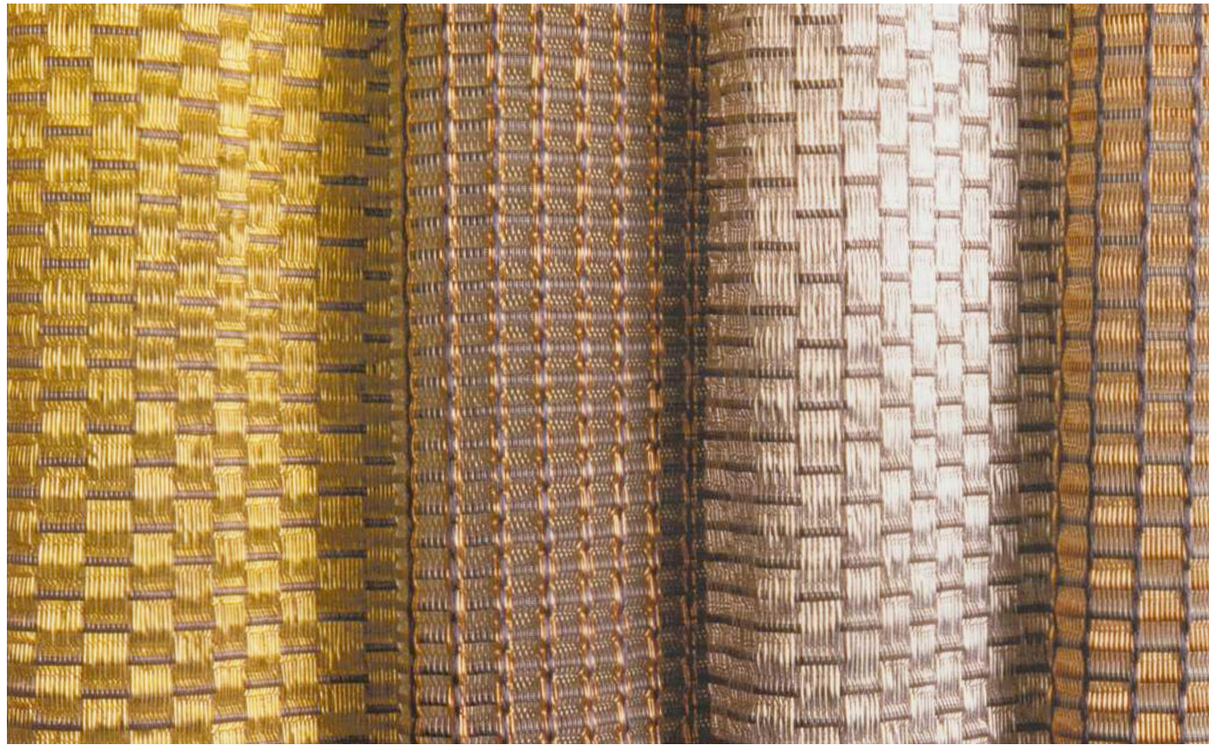
Designed specifically for our tri-panel, mesh-backed chairs, this fabric has an elastic composition that achieves strength through its distinctive weave structure to provide unmatched support.

Monofilament Stripe was inspired by the strength, flexibility and versatility of fishing line. Elizabeth studied this unconventional material and through developing weave sketches using thin wire, paper, leather and other materials, she created Monofilament Stripe.

As Elizabeth's first mesh creation, Monofilament Stripe set the benchmark for future designs.

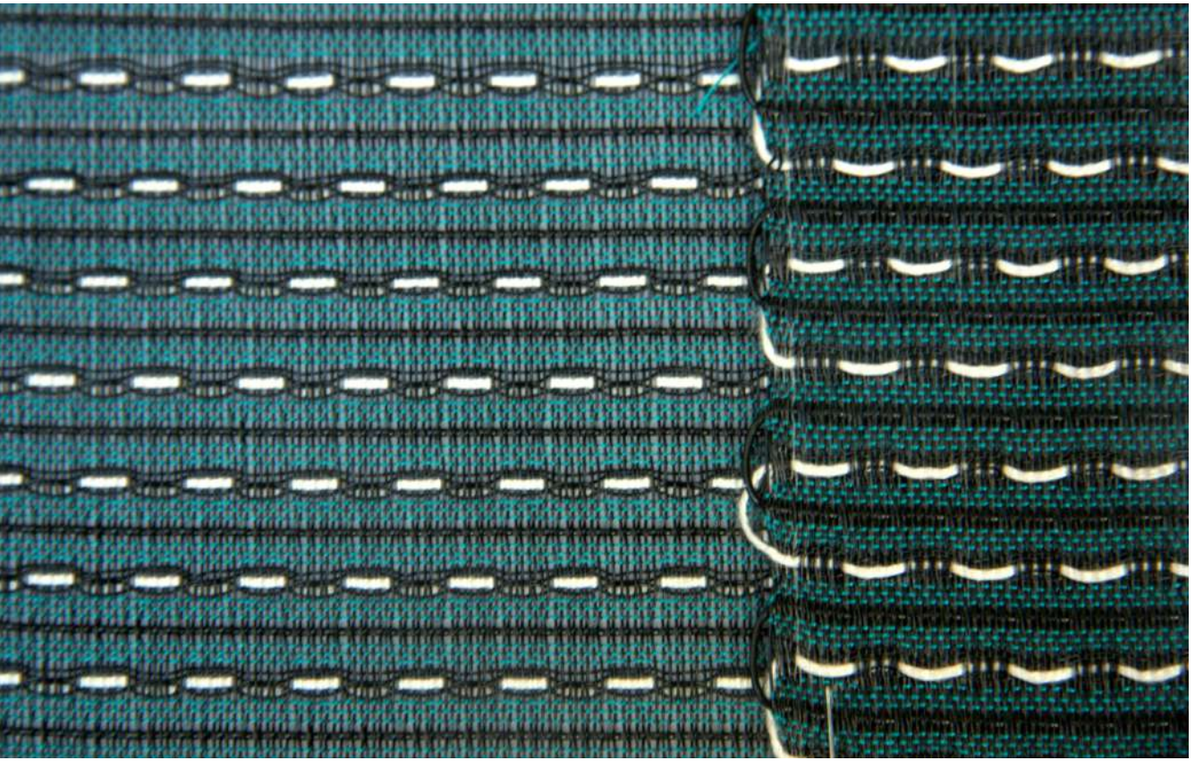
SILVER CHECK

Featuring a silver-plated yarn with a polyester core, Silver Check offers a brilliant, luminous aesthetic and sophisticated finish to any chair. The mesh emits a subtle shimmer while also providing optimal comfort and ergonomic support.



DASH

Using the same construction as Monofilament Stripe, Dash was designed with a distinctive pattern to resemble embroidery floss. The textile carries color beautifully while its durability, flexibility and unique weave make it a dynamic partner for Humanscale's mesh chairs. The fabric maintains a strong, responsive and lightweight composition to accommodate the user's every move.



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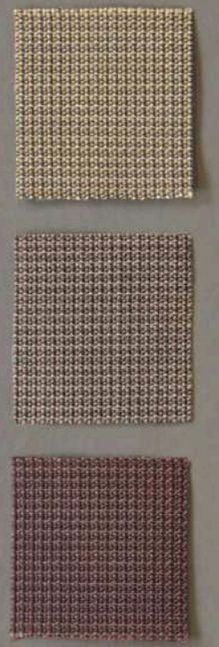
PINSTRIPE

A triumph in textile engineering, Pinstripe is lightweight yet incredibly supportive. To ensure the sitter would be correctly supported, the yarns were adjusted to have two different levels of elastic: the supple transparent threads and the more rigid gray monofilament yarns.

Pinstripe's nylon yarns absorb the color, allowing light to pass through the textile to project a vibrant visual experience. This design was inspired by the exhilaration of downtown New York while glimpsing through the prism of the Brooklyn Bridge.

CATENA

Catena continued the exploration of mesh suspension, with a focus on color and fine texture. It features a pure, clean weave – free of any additional patterns or motifs – in colors inspired by the rich hues of spices.



Featuring a simple aesthetic and strong, non-slip properties, Catena is made to last for many years.

Leathers

AS ONE OF THE FIRST MANUFACTURERS TO EXCLUSIVELY OFFER CHROME-FREE LEATHER, HUMANSCALE IS COMMITTED TO USING MATERIALS AND MANUFACTURING PROCESSES THAT ARE SAFE AND SUSTAINABLE.

Humanscale's premium leathers exceed industry standards in performance and durability.

Our 'alternatively tanned' leather collection is manufactured by Wollsdorf Leather – a carbon neutral tannery – and does not utilize chromium, a harmful chemical used in most methods for tanning leathers. Instead, synthetic vegetable tanning is used to ensure our leathers are free from heavy metals, reducing the risk of causing harm to the environment during production and to the end user as a finished product.

CORVARA (shown above)
Corvara is a semi-aniline dyed leather that offers a smooth, silky feel and ultimate durability. It is a top, full grain leather that is embossed lightly for a consistent, uniform grain structure.

TICINO (shown right)
Ticino is a semi-aniline dyed leather available in a variety of rich colors inspired by nature. This top corrected grain leather was created to provide a more natural aesthetic while ensuring the leather remains as unique as the hide itself.

Longevity

Humanscale has a steadfast commitment to creating products that will stand the test of time. Developed to endure the constant movement of the sitter, our fabrics feature durable properties that support users of all shapes and sizes. Rigorously tested, our textiles are backed by a robust warranty and guarantee the same, brilliant aesthetic and performance on day 1,000 as on day one.

Sustainability

We believe in the well-being of our customers, employees and the planet is more important than our short-term income. This is why we don't make products with formaldehyde, PVC, stain resistant coating or Chrome 6. We examine the standards of our mills by assessing a number of criteria, including how efficient the machines are and how much waste water is used. We also incorporate recycled yarns into our fabrics.

A lot of companies try to do less harm to the environment in the most convenient and inexpensive way possible. We believe that is not nearly enough. In fact, every organization needs to be self-sustaining, operating on its own water, power, etc. to ultimately make a positive contribution to the environment. This is how nature works and is the only way we can ensure the long-term survival of our planet.

Humanscale Textile Testing Results

	Abrasion (Wyzenbeek)	Flammability (TB117)	Colorfastness to light	Crocking	Pilling	Breaking Strength (Grab Test)	Seam Slippage	Reverse Wyzenbeek	Cyclical Test	Sink-O-Meter
Industry Standard	30,000 double rubs	TB117-2013	4	Dry: Class 4, Wet: Class 3	Class 3	Weft & Warp: 50 lbs.	Weft & Warp: 25 lbs.	Test unique to Humanscale; not performed by other manufacturers		
Test Description	The wearing away of a material by rubbing against another surface.*	A cigarette burn test performed on upholstery textiles.*	A textile's degree of resistance to the fading effect of light.*	The transfer of dye from a fabric onto another surface by rubbing.*	The formation of fuzzy fiber balls on surface of a fabric.*	Measurement of stress applied to pull fabric apart under tension.*	Movement of yarns in a fabric that occurs when it is pulled apart at a seam.*	Compares how much mesh wears away when rubbed against different clothing articles.	Test simulates a person getting in and out of the chair.	Measures the lowest point at which the fabric drops when 150lbs of weight is dropped constantly on the seat.
Test Process	A fabric sample is rubbed constantly against a standard cotton fabric and tested for yarn breakage and wear. Number of cycles indicate how much the test fabric withstood before starting to wear away.	Fabric is exposed to a smoldering cigarette. Test measures the amount of textile burnt. A Pass or Fail grade is given at the end of the test.	Textile is placed inside a machine where it is exposed to an artificial light source for 40 hours. The goal is to emulate the effect of UV lighting and sunlight on the textile.	Wet test: A wet white fabric is rubbed against the surface of the test fabric. Class 5: least transfer of dye. Dry test: A dry white fabric is rubbed against the surface of the test fabric. Class 5: least transfer of dye.	Nylon bristles are rub on the surface of the test fabric. The number of pill balls are counted and given a 1-5 grade.*	Test performed in warp (vertical) & weft (horizontal) fabric directions.			Fabric is tested to at least 100,000 cycles to help ensure fabric will withstand wear and last very long.	A two-round test. First test is performed before the cyclical test and second test performed after the cyclical test. A 150 lb. weight goes up and down 100,000 times emulating a person sitting on the chair.
						Fabric is clamped at opposite ends; one clamp is stationary while other pulls fabric. The pounds required to cause fabric to break determines the rating.	Fabric is clamped at opposite ends; one clamp is stationary while other pulls fabric until seam separates. The pounds required to cause separation determines the rating.	A mesh and a standard cotton fabric are tested for abrasion against different clothing articles. Number of cycles indicate how much the test fabric withstood before starting to wear away.		
Lotus	350,000	Passes	4.5	Dry: Class 4.5, Wet: Class 4.5	N/A (Test pending)	Weft: 563.5 lbs., Warp: 644.3 lbs.				
CORDE 4	150,000	Passes	4.5	Dry: Class 5, Wet: Class 5	Class 4.5	Weft: 193 lbs., Warp: 165 lbs.				
Fourtis	150,000	Passes	4.5	Dry: Class 4.5, Wet: Class 5	Class 4	N/A (Test pending)				
Ginkgo	103,300	Passes	5	Dry: Class 4.5, Wet: Class 4	Class 4	Weft: 318 lbs., Warp: 365 lbs.				
Sensuede	200,000	Passes	4	Dry: Class 4.5, Wet: Class 4	Class 5	Weft: 121 lbs., Warp: 122 lbs.				
Monofilament Stripe	150,000	Passes	4.5	Dry: Class 5, Wet: Class 5	Class 5	Weft: 305 lbs., Warp: 350 lbs.	Weft: 65 lbs., Warp: 63 lbs.	Weft: 100,000 cycles, Warp:100,000 cycles	Test pending	Test pending
Silver Check	90,000	Passes	4.5	Dry: Class 5, Wet: Class 5	Class 5	Weft: 318 lbs., Warp: 365 lbs.	Weft: 96 lbs., Warp: 35 lbs.	Weft: 25,000 cycles, Warp:40,000 cycles	Test pending	Test pending
Dash	150,000	Passes	5	Dry: Class 5, Wet: Class 5	Class 5	Weft: 256 lbs., Warp: 328 lbs.	Weft: 74 lbs., Warp: 127 lbs.	Weft: 50,000 cycles, Warp:100,000 cycles	100,000 cycles	1.8 inches
Pinstripe	150,000	Passes	4.3	Dry: Class 4, Wet: Class 5	Class 5	Weft: 292 lbs., Warp: 280 lbs.	Weft: 75 lbs., Warp: 39 lbs.	Weft: 150,000 cycles, Warp:150,000 cycles	107,000 cycles	1.9 inches
Catena	150,000	Passes	4.5	Dry: Class 4.5, Wet: Class 4.5	Class 5	Weft: 390 lbs., Warp: 364 lbs.	Weft: 118 lbs., Warp: 105 lbs.	Weft: 22,500 cycles, Warp:100,000 cycles	100,000 cycles	1.8 inches

*Based on description by Association for Contract Textiles

Cover pattern based off pencil sketches by Elizabeth Whelan, created during the development of Monofilament Stripe