

# MAT CHAIR COLLECTION

Designed by Foersom & Hiort-Lorenzen for Normann Copenhagen



**normann**  
COPENHAGEN





## CHALLENGING CONVENTIONAL THINKING: BREAKING MATERIAL NORMS

After years of extensive research, prototyping, and testing, Normann Copenhagen proudly presents Mat—a chair collection that ingeniously leverages highly renewable, durable materials of hemp and eelgrass, a type of seaweed, as superior alternatives to traditional 3D shell chair materials. Hence the name, Mat, a reference to the material innovation at the core of the design. Rooted in the principles of reduce, re-use, and recycle, the Mat collection aims to revolutionize conventional furniture production methods through minimizing environmental impact, repurposing production waste, and facilitating end-of-life recycling.

With innovation and circularity at its core, Mat is an exploration of how to create a contemporary shell chair with materials that have a lower environmental impact than the industry norm. Designed by Danish design studio Foersom & Hiort-Lorenzen, this new chair design is the result of years of research and development.

CEO and Co-founder of Normann Copenhagen, Jan Andersen, explains: “When Foersom & Hiort-Lorenzen approached us with their hemp chair project, we were immediately curious. Curiosity has always been a driver for Normann Copenhagen, and with our commitment to explore new, innovative production methods in mind, we embarked on a journey with Foersom & Hiort Lorenzen alongside hemp specialists from Danish Technological Institute to realize the project.”







## AN INNOVATIVE PRODUCTION TECHNIQUE

For years, the furniture industry has seen numerous iterations of the same type of chair: the plastic shell chair. Meanwhile, designer Peter Hiort-Lorenzen from Foersom & Hiort-Lorenzen has been working intensely on finding alternative, more sustainable solutions. In the end-1990's, Peter initiated what would become a decades-long process, that began with the idea to transform cellulose material into shell chairs with an aim of ultimately offering an equivalent substitute for plastic.

It has taken several years to research, develop, and test the process of compressing hemp material into a shell chair that would meet the EN Level L2 testing standard for strength, stability and durability. This extensive timeline reflects the challenge of pioneering these production techniques, acquiring unique know-how and building industry expertise, given the absence of prior knowledge or precedent. Being among the first to embark on this endeavor demanded a significant investment of time to navigate and master the complexities involved.

Peter explains: "In 2005, we presented the first prototypes of the chair. Although an initial success, the timing wasn't right, and on top of that, we were experiencing production

issues. In 2008, after years of research, we started testing with one of the strongest natural fibers available: hemp. Now, some 20 years later, the hemp material we have developed in collaboration with Normann Copenhagen is more responsible, a lot sturdier and with a higher aesthetic appeal than any of the previous prototypes. It's a one-of-its-kind product."

The result is Mat, a contemporary chair design with an unprecedented approach to materials. Using a minimalistic, ever relevant silhouette with a focus on ergonomic comfort, the collection encompasses numerous variations of dining chairs and barstools, available with and without upholstery. Utilizing the beneficial qualities naturally present in hemp, the shell is crafted primarily of hemp fibers bound together by a fully recyclable binder. The chair also comes in a characteristic version with added eelgrass, another natural resource with many advantageous qualities and a distinctive aesthetic. The shells are mounted on a simplistic powder coated steel base, available in two color options. The inevitable waste from the production of the shell is shredded and recycled for the making of new chairs, ensuring a zero-waste production.











## HARNESSING THE POWER OF HEMP AND EELGRASS

The shell of the Mat Chair is innovatively crafted using hemp and eelgrass, a type of seaweed. The materials constitute the very essence of the design. Not only do the materials provide a more responsible product, they also play a key role in the aesthetic of the design, highlighting the natural beauty and tactility of the materials.

### Hemp

For thousands of years, hemp has been recognized for its resilience, durability and versatility. Hemp, a rapidly renewable crop, is widely considered an environmentally friendly natural resource. It requires minimal water and zero pesticides, and fertilizers, and grows at extreme speed, enabling it to be harvested every season. In addition, it absorbs carbon dioxide, reducing greenhouse gas emissions. Hemp's CO<sub>2</sub> absorption varies based on growth conditions, but studies indicate a hectare of hemp can capture about 15 tons of CO<sub>2</sub> in one season. This emphasizes hemp's potential as a tool for carbon sequestration and reducing overall CO<sub>2</sub> footprints. The hemp used for Mat Chair is sourced from near-market regions. Here, the plant is grown for use in the food and pharma industries, who utilize the plant's leaves and seeds. The stems, known for their remarkable resilience, have commonly been used for the textile industry, and now also for the Mat Chair.

### Eelgrass

Still a widely overlooked material in almost every industry, eelgrass, a type of seaweed, possesses numerous qualities that also make it an ideal resource for furniture making. In Denmark, more specifically on the island of Læsø, there has been a century-long tradition of using the extremely resilient seaweed species as a roofing material. The natural plant absorbs significant amounts of CO<sub>2</sub> and is known to be a strong and highly durable material with a low environmental impact and carbon emission output.

Eelgrass is extremely important for the underwater ecosystem and so harvesting it would mean removing a vital resource from ocean. Instead, the eelgrass that naturally washes ashore the coastline of Denmark is collected and dried, making sure not to disrupt the plant's essential function in its natural environment.

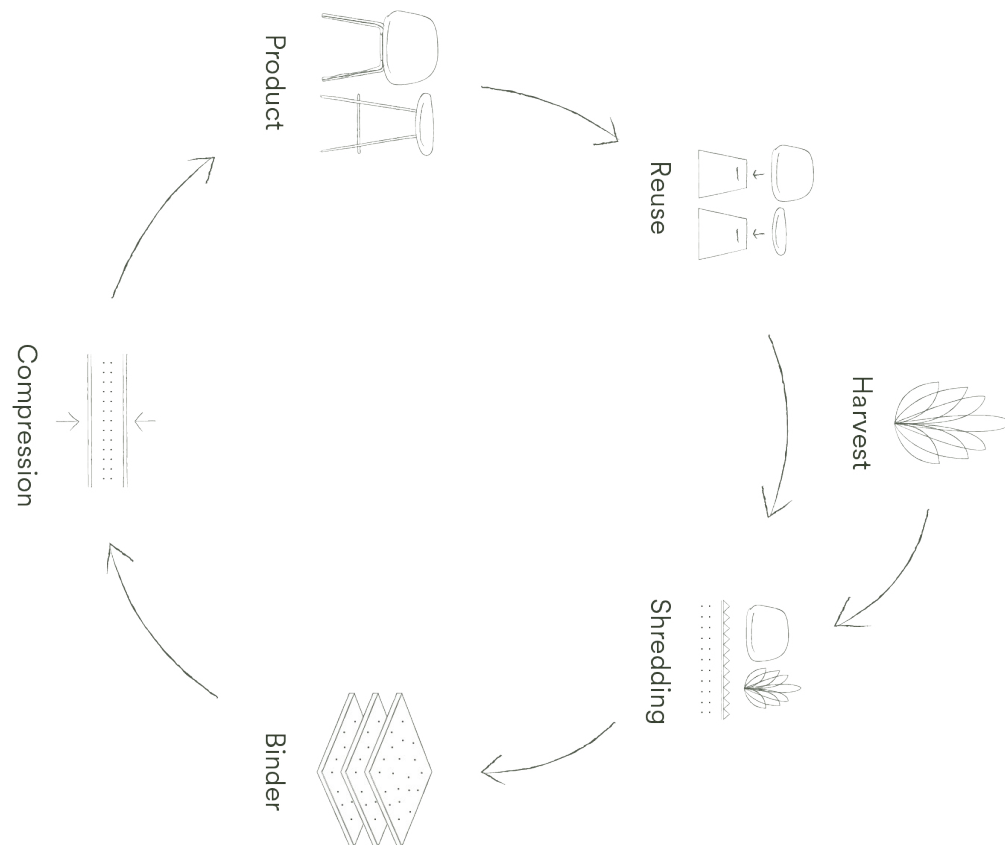
For the production of the Mat Chair, the dried eelgrass, in combination with the milled hemp fibers, offers a grainy expression, exposing the natural beauty and tactility of the materials.











## DESIGNED FOR CIRCULARITY

With circularity and responsibility at its core, the Mat collection is designed for disassembly and recycling, ensuring that the components of the Mat Chair can be recycled into new productions for a fully circular life cycle.

### Harvesting

Mat Chair is primarily crafted from hemp fibers, harvested from near-market farmers. Another variant includes added eelgrass, a type of seaweed which is collected from the coastline surrounding Denmark.

### Shredding

After harvesting, the hemp stems and eelgrass are sorted at the production facility. For the milling process, the hemp stems, eelgrass and recycled Mat Chair shells are turned into scraps, ensuring a homogenous material composition and surface expression.

### Binder

The milled fibers are then mixed with a special, fully recyclable binder designed for strength and durability. The mix is transformed into sheets, which ultimately will become the shell of the chair.

### Compression

The sheets are compressed into chair shells. An expertly engineered process which ensures that the materials' ability to be recycled are not compromised. Hereafter, the shells are expertly cut to size, its edges meticulously hand-sanded, and its surface oiled by hand using a VOC-free linseed oil that ensures a lasting, durable finish.

### Product

The result is the Mat Chair. Designed with circularity at its core, the products can be taken back at the end of their life upon agreement, whereafter they will be disassembled, sorted and re-milled for new products.

### Reuse

At the production facility in Denmark, scraps from the production of the Mat shells are sorted to be shredded, and then turned into new chairs. In addition, this is where the chairs, both the shell and the steel legs, at the end of their life, can be disassembled and reused for new productions.









## CHALLENGING CONVENTIONAL THINKING

Challenging conventional thinking through the power of great design has been at the core of Normann Copenhagen's DNA since the brand was founded in 1999. In recent years, this philosophy has evolved, taking on additional meanings, encompassing the brand's commitment to strive towards a more sustainable business model by exploring innovative, circular modes of operation.

The Mat collection is a direct response to the market's demand for more responsible alternatives that don't compromise on quality or durability. With the introduction of Mat Chair, Normann Copenhagen aims to challenge conventional perceptions of materials within the furniture sector, while aspiring to direct the industry in a more conscious path.

Normann Copenhagen's CEO and Co-founder, Jan Andersen, elaborates: "The story of replacing plastic with natural hemp fibers symbolizes a shift towards sustainability, innovation, and a deeper understanding of our connection with nature. It illustrates how small steps can lead to significant changes and, hopefully, inspire an industry to think greener."

Mat Chair collection includes a dining chair with two shell typologies, a barstool in two heights, a bar chair in two heights and a bar armchair in two heights, all available with a hemp shell or a hemp shell with added eelgrass, as well as with front or full upholstery. The base is crafted using powder coated steel and is available in two timeless colors of Black or Cream. The wide-ranging nature of the collection enables the chair to cater to a diversity of spaces from restaurants to educational facilities to hotel lobbies as well as in private residential settings.







**Mat Chair**

H: 79 x W: 51.6 x D: 53 x SH: 45 cm



**Mat Armchair**

H: 79 x W: 64 x D: 55 x SH: 45 cm



**Mat Barstool 65 cm**

H: 75 x W: 47 x D: 46.3 x SH: 65 cm



**Mat Barstool 75 cm**

H: 110 x W: 51.6 x D: 53 x SH: 75 cm



**Mat Bar Chair 65 cm**

H: 101 x W: 51.6 x D: 55 x SH: 65 cm



**Mat Bar Chair 75 cm**

H: 110 x W: 51.6 x D: 53 x SH: 75 cm



**Mat Bar Armchair 65 cm**

H: 100 x W: 64 x D: 55 x SH: 65 cm



**Mat Bar Armchair 75 cm**

H: 110 x W: 64 x D: 55 x SH: 75 cm

**Shell:** Hemp, Seaweed.

**Upholstery:** All colors in Kvadrat Remix, Kvadrat Canvas, Kvadrat Steelcut Trio, Kvadrat Hallingdal, Kvadrat Divina, Kvadrat Divina MD, Kvadrat Divina Melange, Kvadrat Fiord, Kvadrat Vidar, Kvadrat Sacho Elle, Kvadrat Sacho Zero, Camira Oceanic, Camira Aquarius, Camira Main Line Flax, Camira Synergy, Camira Yoredale, JAB City Velvet and Sørensen Ultra Leather.

**Legs:** Powder-coated steel legs: Cream, Black.

**Price:** Click [here](#) to see the pricelist in all currencies







# CONNECTING PEOPLE AND SPACES

Since Normann Copenhagen's foundation in 1999, our ambition has been to challenge conventional thinking and make the ordinary extraordinary through great design.

By combining the craftsmanship, functionality and endurance characterized by our Danish design heritage with modern silhouettes and durable materials, we aim to create original products in a contemporary design that withstand the test of time. We believe in uniting people and spaces across the world and improving the quality of people's lives through the power of great design.

Our products combine functionality and design and accommodate the diversity of needs of modern life in residential and professional interiors alike.

## Press info

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