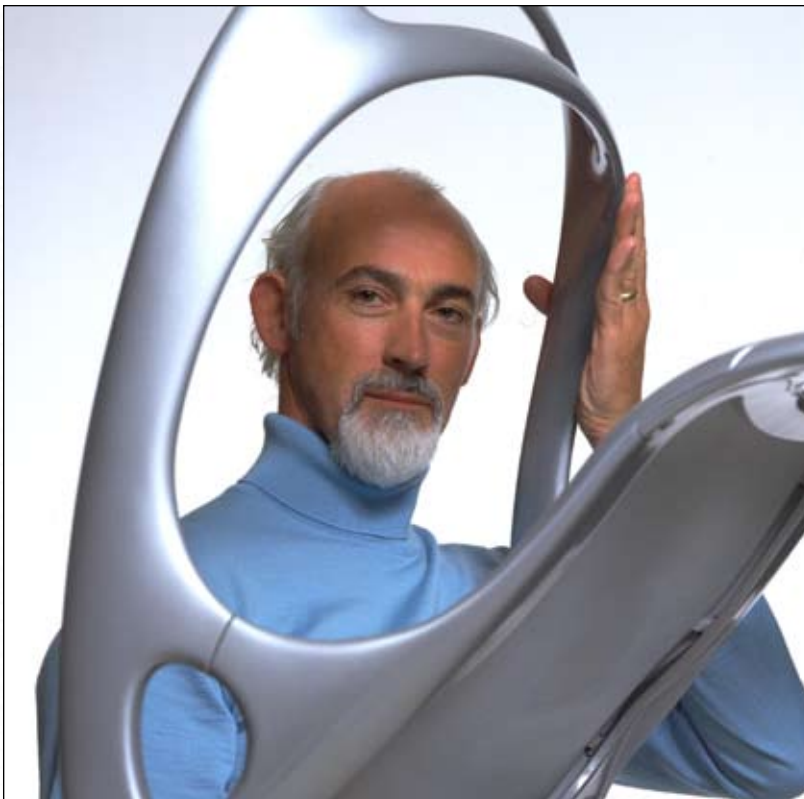


Sculpting Magnesium: A Masterpiece in Furniture Design



Ross Lovegrove, of Lovegrove Design Studio, brings his unique design perspective to the Go Chair, using magnesium to join science and nature.

The Go Chair epitomizes Lovegrove's trademark fluid and futuristic style, defining elegant, yet functional high-tech seating that takes an anatomical approach to form. It was chosen to display at the Fort Worth Museum of Contemporary Art in Texas and is collected by museums around the world.

Highly regarded by design and art aficionados alike, the renowned Lovegrove earned his master's degree from the Royal College of Art and made his mark working at European design firms, helping to design such cultural phenomena as the Sony Walkman and Apple Computer. His firm, Ross Lovegrove Studio, is well-established in London's Knotting Hill district. Lovegrove's portfolio has garnered numerous international design awards, and his works have been extensively published and exhibited.

Lightweight, high-tech magnesium has crossed over from purely industrial- and mechanical-type applications into the high visibility world of furniture design. The world's first magnesium-framed chair, the Go Chair design, was considered an instant classic when first unveiled at the International Contemporary Furniture Fair in New York in 2001. Designer Ross Lovegrove engenders what he calls *organic essentialism* to translate his visions into marketable products, creating lasting iconic forms derived from nature.

"The magnesium Go Chair is the first of its kind to combine technology, materials, and fluid organic language in furniture design." Ross Lovegrove

The Go Chair is manufactured from pressure die-cast magnesium – the first chair to use this technology and material in furniture design. Bernhardt designers first became aware of designing with magnesium through the automotive industry's efforts to produce lighter, stronger, and more durable cars. Bernhardt drew inspiration from precision automotive manufacturing techniques to bring this concept into the realm of furniture design.

A Tour de Force in Lightness and Strength

Bernhardt Design in Lenoir, North Carolina was eager to work with Lovegrove, revering his reputation for leading the furniture design industry in manufacturing and processes.



In phase one of the manufacturing process, this die-cast tool is used for the upper back portion of the chair.



These magnesium test pieces are as-cast, untrimmed, unpolished, and unfinished chair back parts.

Magnesium was chosen to realize Lovegrove’s vision. Bernhardt Design sought to develop this new application for magnesium, specifying it over aluminum due to its light weight and high strength-to-weight ratio. Magnesium’s physical properties and aesthetic appeal presented the ideal design solution for a chair light enough to be stackable, yet strong and durable enough for commercial use.

Bernhardt’s Design Director Todd Campbell says it was clear early on that aluminum would be too heavy for the chair’s solid metal construction. “We examined [production] innovations to develop a manufacturing process for the Go Chair. The result took the chair from 25 pounds down to 15.”

The standard magnesium alloy ADC 12 was chosen for the Go Chair because it possesses excellent flow characteristics for use in large tooling components. “We chose an alloy that would flow best and finish out best,” Campbell adds, “Furniture parts are much thicker than what is used in automotive production, so ductile strength properties were analyzed on computers. The magnesium parts more than met our durability requirements.”

All of Bernhardt Design’s seating has to pass Business and Institutional Furniture Manufacturers Association (BIFMA) testing. The tests measure the strength of the chair’s legs, back, arms, and seat, determining its safety and fitness for use.



Neutral silver and white finish choices give the Go Chair universal appeal.

“Bernhardt Design was eager to work with Ross Lovegrove to develop an application for working with magnesium.” Todd Campbell, Bernhardt Design

Precision Manufacturing Creates Timeless Design

Each chair’s magnesium components are die-cast, hand-polished and powder-coated in white or silver – the latter being the most in-demand customer choice. The manufacturing work is outsourced to three separate, specialized production facilities in the Midwestern United States: one fabricating the magnesium parts, another polishing, and a third locale handling the powder-coat finishing. The contoured seat is made from maple veneer, gray or white polycarbonate, or upholstered from various Bernhardt fabrics.

“Since 2001, we’ve produced about four thousand Go Chairs,” says Campbell. “The chair has been purchased for use in restaurants, office conference rooms, lobbies, home offices, as well as television and movie sets.”



At just 23 inches wide, the magnesium Go Chair is an ideal choice for conference or training rooms.



The clean lines and aesthetic appeal of the magnesium Go Chair marry form and function in modern office settings.



In a café setting, the Go Chair offers flexibility and comfort, and visually blends well with other natural building materials.



The stackable Go Chair demonstrates magnesium's durability, withstanding outdoor weather conditions with ease.

"Bernhardt Design first became aware of magnesium in design through the automotive industry."

Todd Campbell, Bernhardt Design



Go Chair backs, legs, and feet receive white powder coating on the production line.

The Go Chair's timeless design flair is immediately apparent. Lovegrove emulates the logic and beauty found in nature, gravitating toward working with natural materials. The ergonomic design is also comfortable, a feature not often associated with contemporary furniture.

Campbell touts the chair's ergonomic appeal: "The Go Chair uses organic shapes and lines to create seating that fits naturally to the human form," he notes, "Ross Lovegrove believes that there is a strong trend toward using technology to lighten the form and to create structures that are akin to the body's natural movement, which he explores in this design. The result is a design fused with technology and ultramodern materials in a universal chair that is ideal for any application."

From where Ross Lovegrove and Bernhardt Design are standing, the Go Chair is the best seat in the house. Exclusive dealers market the Go Chair as the "Ferrari of ultramodern design for contemporary furniture connoisseurs." Magnesium proves its versatility, meeting both the automotive and furniture industries' precision manufacturing requirements with simultaneous strength and style, further inspiring the unlimited and diverse design potential of magnesium. ❖

"The Go Chair uses organic shapes and lines to create seating that fits naturally to the human form."

Todd Campbell, Bernhardt Design

*Fast Facts:
Magnesium Go Chair*

- » Choosing magnesium reduced chair weight by 40% compared to aluminum
- » Precision manufacturing of solid die-cast magnesium was inspired by automotive industry
- » First chair made with lightweight magnesium frame
- » Ergonomic high-tech design by Ross Lovegrove
- » Manufactured by Bernhardt Design
- » Chair measures 23"W x 27"D x 30"H
- » International award-winning design
- » Suitable for indoor and outdoor use



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To learn more about the benefits of designing products with magnesium, contact the **International Magnesium Association**
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