



New materials are in vogue

thedesignjunction.co.uk

Angela Saini

Being one of the trendiest cities in the world, when London has a design event, it really does do it in style. One of the attractions at this year's colorful Annual Design Festival, held at the end of September, was *Design Junction*, a showcase for more than 180 international and cutting-edge design brands. Designers were both selling their wares to the everyday public, and exhibiting more unusual, artistic creations that were out of the reach of all but those with the deepest pockets and the most aspirational tastes. Hosted at two vast venues in central London, one feature of this year's event was how innovative materials are being used to create furniture and accessories for the home.

The bulk of the show was held in the old site of the Central Saint Martins School of Art and Design, a historic

building with a warren of rooms over many floors, and a distinguished pedigree for producing some of the country's most famous contemporary designers. Muted colors in a variety of soft textures and surfaces appeared to be the flavor of the moment, with most designers favoring simple, natural materials such as wood, glass, metal, leather, and wool. Nonetheless, there was some excitement about the design possibilities of using new materials with revolutionary properties.

"We will see a big move toward composites use in the home," according to Marc Cohen, the CEO of Hypetex, a firm that has worked with Formula One racing engineers for six years to create the world's first colored carbon-fiber composites. The colors, ranging from bright reds and purples to oranges and blues, are

blended into the fiber itself, so the weave is still visible. Last year, working with the designer Michael Sodeau, Cohen's company launched a chair that looks like a set of colored discs resting against one another (www.hypetex.com/halo). It is a design that would not be possible with most other materials, but the strength and lightness of carbon fiber made it feasible. "The way it's been created, there's a very small connector between the back and the main frame," he says.

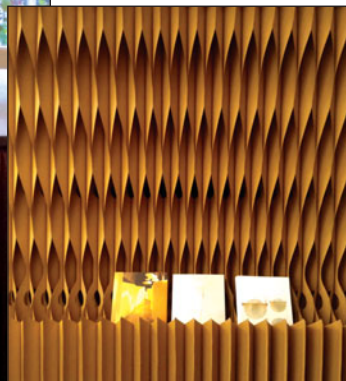
Innovation like this, however, comes at a cost. The latest version of this "Halo" chair is priced at more than \$15,000. Nonetheless, says Cohen, he hopes to see his material used in a wide variety of products in the future, from sporting goods to kettles and fridges, especially as automation brings costs down. "You have to see it to believe it," he says. "The structural strength would allow designers to design something that's that much more interesting."

Meanwhile some exhibitors at *Design Junction* played with existing materials to explore new ways in which they might be used. Canadian architect Stephanie Forsythe filled an entire room with "soft walls," which were honeycomb-structured sheets of paper and plastic that, when unfolded, could be used as internal walls, tables, and chairs. She showed visitors how they worked by lifting huge, flat concertina-like sheets of paper from hooks, and slowly unfurling them to lengths of a few meters. She and her husband developed the idea when they were working with paper models for buildings. Inspired by a paper party decoration of a wedding bell, they wondered whether paper could be cleverly employed as a building material.

"We very quickly realized we were onto something. Flexibility is the one thing we were looking for," she says. Most of the products in their "soft" collection are made from 50% cardboard boxes and 50% long fibers from northern trees. But they have also developed a more robust, shiny white version, in polyethylene. "You can't tear this, and you can get it wet," she explains. She is enthusiastic about the prospect of working with materials scientists further to create even



Architect Stephanie Forsythe sitting on and surrounded by walls and furniture made from honeycomb-structured paper. Inset: Honeycomb-structured paper walls, known as "soft walls," co-invented by architect Stephanie Forsythe. Credit: Angela Saini.





stronger and more durable versions. “A new material will help people rethink an old form,” she says.

Another example of this at *Design Junction* was the “Knit Collection,” developed by Keter, a global resin consumer products firm. Taking a cue from the popular revival of traditional woven materials, it copied the pattern of a knit but in injection-molded silicone. From a short distance it does resemble thick, soft knitted yarn, but in fact it has all the texture and functional properties of a plastic. Their range of products includes bags, baskets, and seats.

Some firms are working even more actively to develop new materials targeted especially to the products they want to make. The high-end Swiss bathroom company, Laufen, put on a particularly lavish display to showcase a new material it has researched and developed for more than five years for bathroom sinks. Currently, the walls of even the thinnest ceramic sinks must be at least seven to eight millimeters thick in order to safely withstand use. But the firm’s new “SaphirKeramik” ceramic claims to be exceptionally hard and strong, which allows for thicknesses of just one to two millimeters. According to Laufen’s website, SaphirKeramik gets its hardness and strength from corundum, a colorless mineral found in sapphires, and the second-hardest mineral after diamond. “Rigorous testing has revealed that its flexural strength is equal to that of steel,” it has claimed.

Arranged in carefully lit rows, decorated in gentle line drawings and geometric patterns, at first glance the company’s white sinks looked more like delicate pieces of porcelain pottery than washbasins. Many people might consider a product like this to be an unnecessary extravagance, but as *Design Junction* proved, there is always a market for luxury. Indeed their exhibit attracted large numbers of curious visitors.

Sleekness seemed to be in style in other parts of the show, too. The Italian company, Caimi, exhibited its own patented technology, Snowsound, for use in thinner and more discreet soundproof surfaces. The thin panels contain layers of polyester of varying densities, each of

which can catch different frequency ranges of sound waves. Light and covered entirely in fabric, with no frames, and in bright colors and different shapes, they can be attached to walls or suspended from ceilings (www.caimi.com/snowsound).

“New materials can give you the possibility to use very interesting new aesthetics and performance. Sustainability is also very important now,” says Emilio Genovesi, the CEO of Material ConneXion Italy, a 12-year-old materials library that has branches in eight countries, and is soon to add another in Bilbao, Spain. At *Design Junction*, Genovesi and his team hosted a “materials village,” exhibiting new materials being developed by Italian firms that can be used in architecture and interior design. The full library contains more than 7500 materials and processes from around the world, each of which has been selected through a strict review process, which happens every month. “This was the first library in the world dedicated to materials,” he says.

Among the materials he brought with him from Italy was EcoMalta, a mixture of water, quartzes, and acrylic polymers that can be used as a continuous surface on floors, walls, kitchen countertops, and in showers. The latest version, called OleoMalta, substitutes sunflower oil for some of the polymers. “It’s an ecologic and sustainable material,” explains Fabiano Raimondo, the foreign sales manager for Oltremateria, the firm that developed it. Its selling point is that it uses no cement, epoxy, resins, or toxic substances.

“Often innovation in materials is by big companies, like Bayer or BASF, and this rarely reaches the small- or medium-sized companies for everyday products,” says Genovesi. His hope is that events like *Design Junction* and the materials library might help to work as an intermediary between companies and users. Among his




A thin-walled ceramic washbasin, developed by the Swiss bathroom company, Laufen. Credit: Angela Saini.

favorite materials that he had brought for display from the materials library was a moldable fibrous composite made from 60% coir fibers and 40% natural latex. A completely natural product, he explained that it could be used for packaging.

Even the smallest objects are benefiting from an injection of innovative materials. “We want to be surrounded by tactile objects in our home and in what we choose to wear,” says jewelry designer Jennifer Ring. Her company, Nylon Sky, already uses traditional wood, brass, and acrylics, but last year added iridescent Perspex to its collection of necklaces. “The surface changes color beautifully depending on the viewing angle,” explains Ring.

Ring notes that the advent of widely available three-dimensional printing is also changing the way designers work, allowing them to do previously unimaginable things. That said, “the resulting look and feel of the material still have some way to go before it becomes appealing to the consumer,” she cautions.

“I have never worked in a traditional way,” she says. “I think this gives me a new perspective on what jewelry can be and how we can use other materials, usually associated with architecture or interiors, and reposition them in a new context. I think it’s important to have that kind of approach to materials, enabling us to see more possibilities beyond the standard.” □



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