April 2008

future materials

Ideas of Substance

Material ConneXion scours the world's shows to find new materials and in January presented a range of new ideas for home furnishings

At Heimtextil 2008 held in Frankfurt in January, Material Connexion Cologne presented its special 'Textiles+more' exhibition.

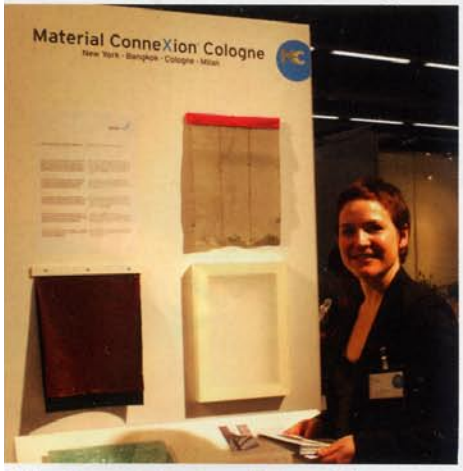
Material ConneXion bills itself as "the leading scout" for innovative materials and technologies in a wide range of industries – from the automotive, aviation and aeronautics sectors through textiles, fashion and sport and on to electronics and consumer goods.

"Our team of specialists offers manufacturers and users a multi-faceted marketing and consultancy service," explained material researcher Anne Farken at the show. "This includes research into materials, trend forecasts, support for product development, the provision of specialist workshops and product presentations.

"In its networking role, Material ConneXion scouts make all the contacts, bring appropriate partners together and promote intensive dialogue between materials manufacturers and users within an industry."

Customers also have free access to Material ConneXion's showcase materials library, which covers more than 3,000 original samples in eight product categories. An online database is also available.

Material ConneXion was established in New York in 1997 by George Beylerian and the German branch has been in Cologne since 2005. There are also branches in Bangkok and Milan.



Material researcher Anne Farken at the Textiles+more' stand at Heimtextil.

Added Value

'Textiles+more' presented textiles and textile/material combinations intended to provide inspiration and added value for planners and decision-makers.

Included in the selection were polymers, natural materials and glass and metal, as well as cement and carbon compound materials. The exhibition provided a selection of original specimen materials and condensed product information arranged under four main headings, with experts on hand to discuss any queries relating to specific materials.

The 'Sensual' themed area contained a selection of materials unusual to the touch and with unexpected effects, intended to be used in combination with textiles.

Among these were the 3D textiles of Annek Kyyro Quinn of the UK, Twentinox metal meshes and semi-flexible copper pyrite meshes made at the Annemette Beck Design Studio in Denmark.

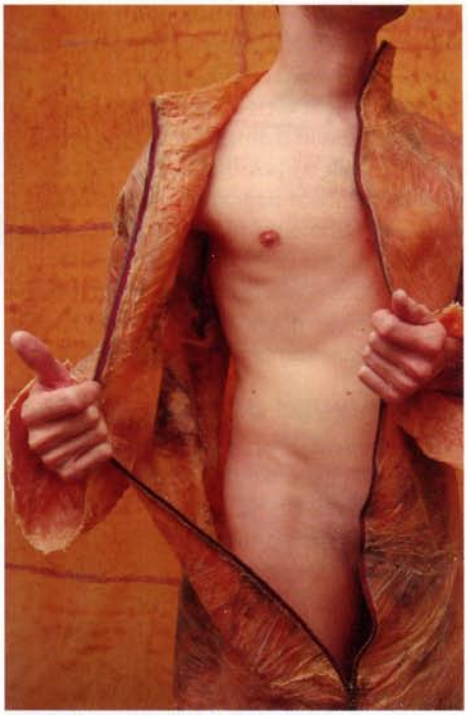
Swarkovski now supplies furnishing fabrics with embedded crystal yarns while Visiotex of Germany has a range of textile designs embedded with flowers.

Other interesting products within this category included Holoknit fabrics with a holographic effect designed by Lama Concept in the Netherlands, and fleece wallcoverings with a cashmere look from Omexco of Belgium.

Smart

In the Smart section, Material ConneXion aimed to illustrate that cutting-edge technologies which have been around for some time now in certain branches of industry, can be used successfully in other market segments for new applications. These included materials that can interact or hold complex functions such as light, electricity and heat conduction.

A good example was the Chameleon Fabric produced by Sommers Plastics Products in the USA, which changes colour according to temperature, while Thermosiv of Germany manufactures a heated woven textile. It contains conducting, non-metallic resistive yarns, interwoven with non-conductive types.



Top: The curious Skinbag materials of French designer Olivier Goulet

Taiyo Europe of Germany is now promoting Sky Clear Coat as a self-cleaning membrane for large-scale acrchitectural projects, presumably based on BASF's Mincor TX TT technology.

To achieve the well known 'lotus leaf effect', BASF is now employing particles with a diameter of less than 100 nanometres embedded in a carrier matrix. These imitate the papillae on the lotus leaf that ensure only 2-3% of its surface comes into contact with water droplets. As this minimal contact is confined to the outermost tips of the papillae, the adhesive forces that would otherwise cause a droplet to spread are also minimal. Instead, the water's surface tension forces prevail and invariably cause the droplet to form a spherical globule – and the water just rolls off.

Particles of dirt on the surface, which because of the papillae also have hardly any contact with the leaf surface – or a fabric treated with Mincor TX TT – are carried along by the droplets and washed away without any need for detergents or scrubbing.

Further products falling under the Smart banner at Heimtextil included woven optical synthetic fibres called Philknot, made in Japan and promoted in Europe by Visiotex, while another striking development on display by Lama Concep was a wool felt floorcovering material with integrated LED lighting effects.

'Cloth Light' is another intriguing concept for home environments, with delicate illuminated lighting yarns patterned in sheer nets to create stunning aesthetic effects.

Customized

The 'Textiles+more' 'Customized' area showed materials ideally suited to customer-specific design, whether commercially produced on a small scale, or handcrafted. These ranged from the custom made, high-end 3D woollen carpet creations of Germany's Floor to Heaven to Skinbag, the concept of French designer Olivier Goulet, with polyurethane and latex materials developed to feel and respond like natural skin.

Hale GmbH makes glass composites with embedded meshwork, while Kvadrat GmbH has developed digitally-processed upholstery fabrics, both of which are easy to envisage in upmarket homes, as indeed are the individually-produced fabrics of American Supply of Paris, consisting of elaborate designs of silver tiles embedded in dark meshes.

Sustainable

Inevitably, the fourth area of the Material ConneXion display focused on 'Sustainable'. Products in this section included such now-established products as recycled polyester and PLA-based nonwovens, but also some other unusual items, including textiles made of bark and wood by Bark Cloth Europe and textile wood panels made by Woodloop in Finland.

Chameleon Fabric produced by Sommers Plastics Products

Surface IQ is a PVC-free wallcovering manufactured by Carnegie in the USA, which can be combined with the same company's Xorel range of non-toxic fabrics, while Straightforward is described as a 'climate neutral' carpet tile by its manufacturer InterfaceFLOR.

Climatex Lifecycle goes a stage further and is described by its Swiss manufacturer Rohner Textil AG as a fully compostable upholstery fabric.

The key to this is ramie fibre, which when mixed with wool results in a product well suited to soaking up and dissipating moisture for climate control seating comfort.

For its production, the various manufacturing stages had to be revamped, the company says, such as eliminating the sizing of the warp yarns. Residual scrap utilisation has subsequently proven that all of the fabric's chemical constituents are biodegradable. In addition, the waste material from weaving can be converted into felt to be subsequently used as nonwovens for upholstery, or as a mulch in gardening.

Large efforts were made to test dye chemicals for their ecological safety by the company, and although a mere 16 out of 1,600 available dye chemicals lived up to the rigid specifications, almost all colour variations are possible, with the exception of black.

Visiotex of Germany has a range of textile designs embedded with flowers

Holoknit fabrics with a holographic effect designed by Lama Concept

Lama Concept wool felt floorcovering with integrated LED lighting effects