



# DECEMBER 09 MATERIALS UPDATE

Material ConneXion®

**As part of our continuing efforts to provide our clients with the newest and most innovative materials sourced from around the world, we are pleased to present our monthly Materials Update.** Here you will find the latest materials to have been added to the database, upon their acceptance by our regular jury process.

These materials can be seen online and on-site at our New York location. Selected materials are also available at our Cologne, Daegu, Milan, and Bangkok locations; please call or email us at any of the addresses listed for more information.

Interested in these materials but not a client? Our subscription-based Materials Library is the world's largest library of advanced, innovative and sustainable materials and processes. With 45-60 new materials added every month, our libraries around the world give you immediate access to over 4,500 materials onsite and online, Material Specialists and Monthly Updates on what's new.

### **Become a member of Material ConneXion® today!**

Contact us at 212 842 2050 or [access@materialconnexion.com](mailto:access@materialconnexion.com) to find out about more about membership levels and benefits.

### **Need hands-on expertise?**

Our Advanced Material Solutions Team™ provides a wide array of consulting services. Contact us at [consulting@materialconnexion.com](mailto:consulting@materialconnexion.com) or call today.

#### **Andrew H. Dent, PhD**

Vice President, Library & Material Research

**Material ConneXion®**

P +1 212 842 2050

E [adent@materialconnexion.com](mailto:adent@materialconnexion.com)

W [www.materialconnexion.com](http://www.materialconnexion.com)

#### **Champonuj Weerakitti**

Director of Materials Library

**Material ConneXion® Bangkok**

P +66 (0) 2 664 8448

E [cweerakitti@materialconnexion.com](mailto:cweerakitti@materialconnexion.com)

W [www.materialconnexion.com/th](http://www.materialconnexion.com/th)

#### **Karsten Bleyemhl**

Director, Library & Material Research

**Material ConneXion® Cologne**

P +49 (0) 221 99 22 28 - 22

E [kbleyemhl@materialconnexion.com](mailto:kbleyemhl@materialconnexion.com)

W [www.materialconnexion.com/de](http://www.materialconnexion.com/de)

#### **Sun Ah Kim**

Director of Library & Consulting

**Material ConneXion® Daegu**

P +82 53 740 0033

E [sakim@materialconnexion.com](mailto:sakim@materialconnexion.com)

W [www.materialconnexion.com/kr](http://www.materialconnexion.com/kr)

#### **Micol Costi**

Director, Library & Material Research

**Material ConneXion® Milano**

P +39 02 39 32 55 85

E [mcosti@materialconnexion.com](mailto:mcosti@materialconnexion.com)

W [www.materialconnexion.com/it](http://www.materialconnexion.com/it)

# DECEMBER 09 MATERIALS UPDATE

Material ConneXion®

## CATEGORY INDEX

Carbon	Cement
Metal	Glass
Polymer	Ceramic
Natural	Process

MC#: 0128-03

End-grain balsa wood core material. The wood is cut so that the pores of the grains are on the top and bottom of the pieces; this maximizes compressive strength and shear resistance, and prevents rotting.



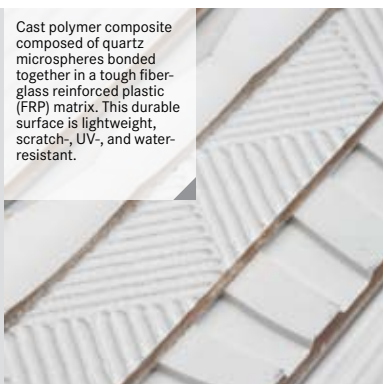
MC#: 0128-04

This recyclable, thermo-plastic sandwich core material offers good fire, smoke and toxicity properties. It consists of two high strength skins or facings separated by a closed cell foamed PVC core material. Used for interior paneling.



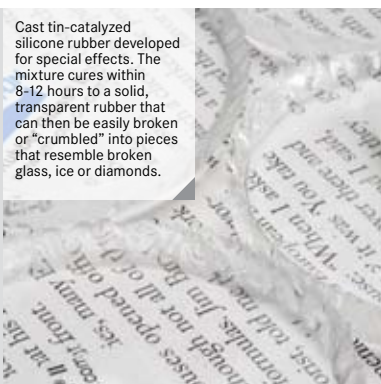
MC#: 0247-07

Cast polymer composite composed of quartz microspheres bonded together in a tough fiber-glass reinforced plastic (FRP) matrix. This durable surface is lightweight, scratch-, UV-, and water-resistant.



MC#: 1737-04

Cast tin-catalyzed silicone rubber developed for special effects. The mixture cures within 8-12 hours to a solid, transparent rubber that can then be easily broken or "crumbled" into pieces that resemble broken glass, ice or diamonds.



MC#: 2499-06

High performance fabrics with an exceptionally soft hand. These textiles exhibit good moisture management and improved processing performance for special finishing processes like mercerizing. Used for activewear.



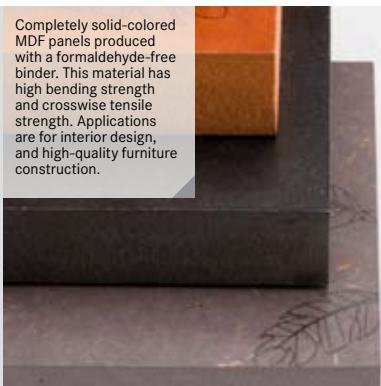
MC#: 3851-02

These fabrics consist of chemically cross-linked phenolic resin. They have been engineered as insulation against direct flames. The fibers can be processed into felts, nonwovens, yarns, fabrics using all standard textile processes.



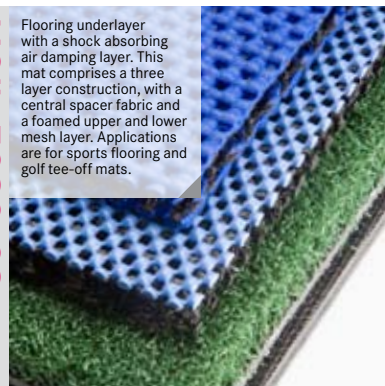
MC#: 5228-02

Completely solid-colored MDF panels produced with a formaldehyde-free binder. This material has high bending strength and crosswise tensile strength. Applications are for interior design, and high-quality furniture construction.



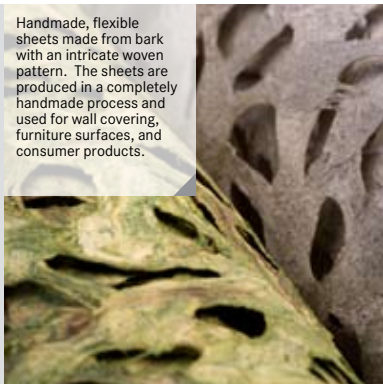
MC#: 5020-02

Flooring underlayer with a shock absorbing air damping layer. This mat comprises a three layer construction, with a central spacer fabric and a foamed upper and lower mesh layer. Applications are for sports flooring and golf tee-off mats.



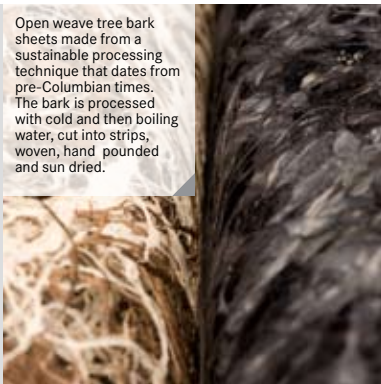
MC#: 5276-05

Handmade, flexible sheets made from bark with an intricate woven pattern. The sheets are produced in a completely handmade process and used for wall covering, furniture surfaces, and consumer products.



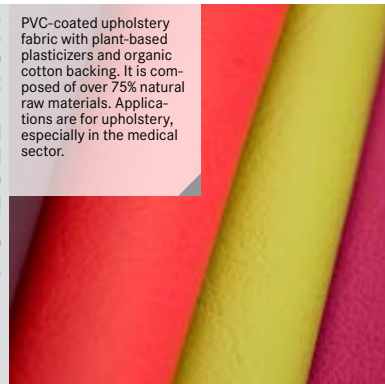
MC#: 5276-06

Open weave tree bark sheets made from a sustainable processing technique that dates from pre-Columbian times. The bark is processed with cold and then boiling water, cut into strips, woven, hand pounded and sun dried.



MC#: 5597-04

PVC-coated upholstery fabric with plant-based plasticizers and organic cotton backing. It is composed of over 75% natural raw materials. Applications are for upholstery, especially in the medical sector.



# DECEMBER 09 MATERIALS UPDATE

Material ConneXion®

## CATEGORY INDEX

Carbon	Cement
Metal	Glass
Polymer	Ceramic
Natural	Process

MC#: 5845-09

These tiles are composed of 45% coconut and bamboo husk, 45% resin and 10% ceramic backing. These tiles are manufactured without VOC's and are suitable for vertical surfaces only in either interior or exterior application.



MC#: 6142-02

Three-dimensional, honeycomb knitted spacer fabric. The structure is a double-Raschel weave; a warp knit material with in laid connecting yarns in addition to columns of knit structures. Applications are for seats, mattresses, and pads.



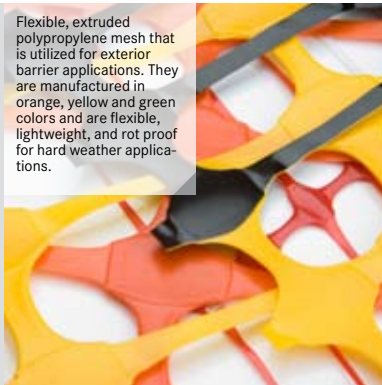
MC#: 6553-02

Flexible water-absorbent compound that expands by 60% of its original size in water. The material is a two-part polyurethane material with a 10 minute working life and full cure time of 24 hours. Applications are for increasing the size of molds.



MC#: 6557-01

Flexible, extruded polypropylene mesh that is utilized for exterior barrier applications. They are manufactured in orange, yellow and green colors and are flexible, lightweight, and rot proof for hard weather applications.



MC#: 6557-02

Stainless steel wire mesh. This durable stainless steel mesh is recyclable and sold by the roll. It is chemical-, heat-, and corrosion-resistant. It is used as filtration for oils, chemicals, food, pharmaceuticals, and in the petrochemical process.



MC#: 6558-01

A range of hand-woven, naturally dyed fabrics. These textiles are composed of polyester blended with cotton or rayon. The textiles are dyed using natural materials derived from plants and tree bark from a variety of species.



MC#: 6559-01

Recycled metal granulate that is obtained from metal mixed fractions using a mechanical process. It is a new, lower impact and non-melting recycling process and is available as aluminum, copper, brass and zinc granulates.



MC#: 6560-01

This proprietary, zero VOC process allows for the formation of customized three-dimensional shapes produced from renewable energy resources. They consist of OCC (old corrugated cardboard) and Bovine Processed Fibers™.



MC#: 6560-02

These pressure-molded flat single and multi-ply boards comprise of a variety of raw materials including wood fiber, agro-fiber (including plant fibers and Bovine Processed Fiber™) and post-consumer waste.



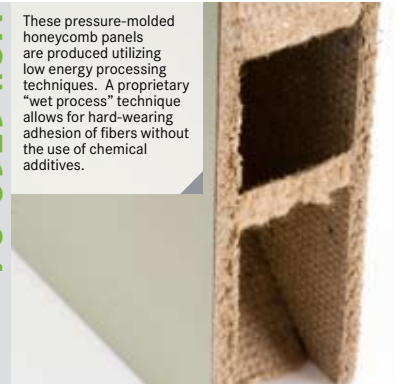
MC#: 6560-03

These high grade molded fiber panels exhibit structural properties made with renewable materials and low energy processing techniques. They are ideal for high strength applications (i.e., surfboards, shipping crates).



MC#: 6560-04

These pressure-molded honeycomb panels are produced utilizing low energy processing techniques. A proprietary "wet process" technique allows for hard-wearing adhesion of fibers without the use of chemical additives.



# DECEMBER 09 MATERIALS UPDATE

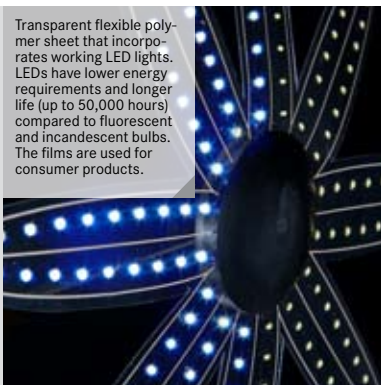
Material ConneXion®

## CATEGORY INDEX

Carbon	Cement
Metal	Glass
Polymer	Ceramic
Natural	Process

**MC#:** 6561-01

Transparent flexible polymer sheet that incorporates working LED lights. LEDs have lower energy requirements and longer life (up to 50,000 hours) compared to fluorescent and incandescent bulbs. The films are used for consumer products.



**MC#:** 6562-01

Long lasting flavored plastic manufactured by infusing flavor compounds directly into the polymer. Flavors are incorporated into the molecular structure of the plastic and are slowly released through the plastic by diffusion.



**MC#:** 6565-01

Blend of naturally occurring anthracite and bentonite clay that has been impregnated with a quaternary amine to absorb oils. Applications include storm water management, ground water remediation, and waste water recycling.



**MC#:** 6566-01

Tiny hollow tubes with diameters on the scale of 100 nm (0.004 mil). Halloysite nanotubes dispersed in polymers are used to produce composites for military, automotive, aerospace, packaging, and electronic applications.



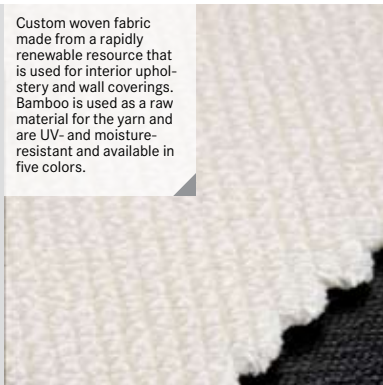
**MC#:** 6564-01

Oil-absorbing cellulose fiber. This hydrophobic material selectively absorbs oil while repelling water. The material floats in water, even when saturated with oils. Applications include marine and wetlands environments.



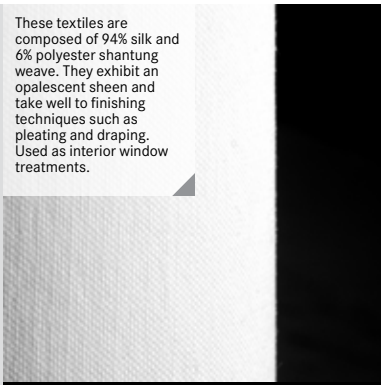
**MC#:** 6567-01

Custom woven fabric made from a rapidly renewable resource that is used for interior upholstery and wall coverings. Bamboo is used as a raw material for the yarn and are UV- and moisture-resistant and available in five colors.



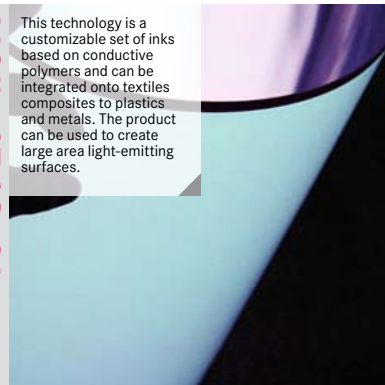
**MC#:** 6567-02

These textiles are composed of 94% silk and 6% polyester shantung weave. They exhibit an opalescent sheen and take well to finishing techniques such as pleating and draping. Used as interior window treatments.



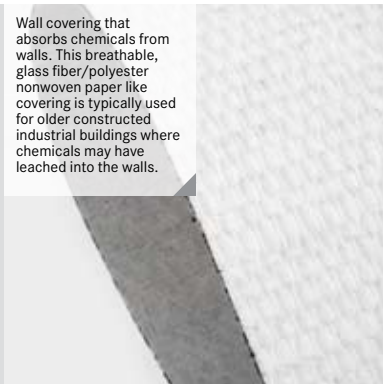
**MC#:** 6568-01

This technology is a customizable set of inks based on conductive polymers and can be integrated onto textiles composites to plastics and metals. The product can be used to create large area light-emitting surfaces.



**MC#:** 6569-01

Wall covering that absorbs chemicals from walls. This breathable, glass fiber/polyester nonwoven paper like covering is typically used for older constructed industrial buildings where chemicals may have leached into the walls.



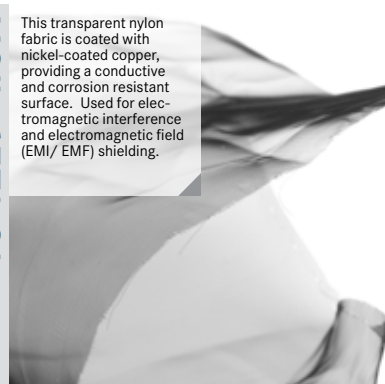
**MC#:** 6570-01

Uncoated folding board for packaging made from 80% post consumer waste. The paper is Green Seal certified for environmentally friendly manufacturing processes, and produced from Forest Stewardship Council (FSC) certified wood.



**MC#:** 6571-01

This transparent nylon fabric is coated with nickel-coated copper, providing a conductive and corrosion resistant surface. Used for electromagnetic interference and electromagnetic field (EMI/EMF) shielding.



# DECEMBER 09 MATERIALS UPDATE

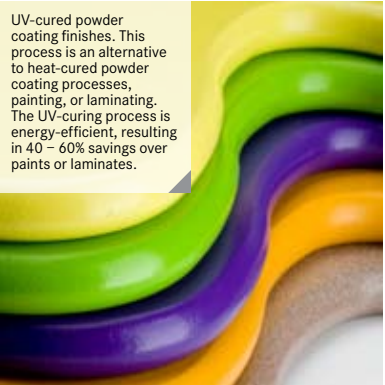
Material ConneXion®

**CATEGORY INDEX**

Carbon	Cement
Metal	Glass
Polymer	Ceramic
Natural	Process

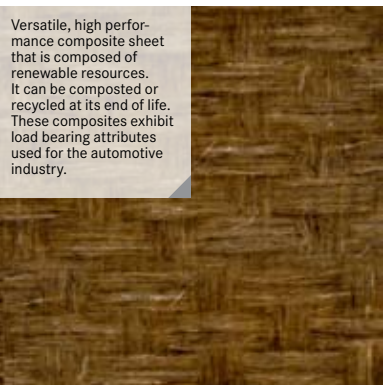
**MC#: 6572-01**

UV-cured powder coating finishes. This process is an alternative to heat-cured powder coating processes, painting, or laminating. The UV-curing process is energy-efficient, resulting in 40 - 60% savings over paints or laminates.



**MC#: 6573-03**

Versatile, high performance composite sheet that is composed of renewable resources. It can be composted or recycled at its end of life. These composites exhibit load bearing attributes used for the automotive industry.



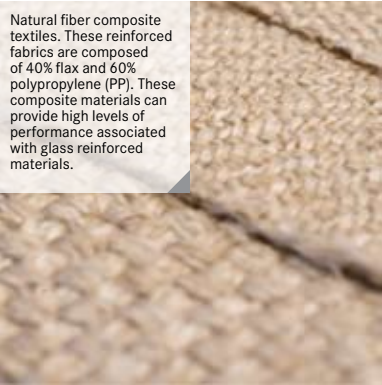
**MC#: 6571-02**

This versatile fabric is composed of a woven nylon that is copper and tin plated. The plating process is computer controlled resulting in specific electrical properties used as appliance covers and protective clothing.



**MC#: 6573-01**

Natural fiber composite textiles. These reinforced fabrics are composed of 40% flax and 60% polypropylene (PP). These composite materials can provide high levels of performance associated with glass reinforced materials.



**MC#: 6574-01**

These silicone printing inks are non-toxic and do not contain organotin, phthalate, formaldehyde, PVC or solvents. They are suitable for manual screen printing processes on most natural and synthetic fabrics including elastic textiles.



**MC#: 6571-03**

High-performance shielding fabric. Conductive components are sandwiched between cotton layers to create a soft-touch, shielding fabric. It is used for bedding, clothing, drapes and where soft-feel shielding fabrics are needed.



**MC#: 6573-02**

Composite material consisting of flax fibers in a polylactic acid (PLA) resin matrix. The flax fibers are highly aligned, allowing faster wet-out and impregnation. Used for automotive, building and construction, and marine.

