

GRASSES showcased a wide range of material products derived from the Graminae family of flowering plants. Grasses are defined by their hollow stems which join at alternating, sheathing leaves, and flowers arranged in spikelets. Of more than 12,000 known species, common examples of grasses grown in high volumes around the world include bamboo, corn, rice, sorghum, and wheat. Although grasses for human use are most prevalent in the food supply chain, providing just over half of global dietary energy, they are also viable resources for products in many other industries, including buildings and infrastructure. Grasses are also considered rapidly renewable crops, meaning they grow in a cycle of less than 10 years, an important factor for the environmental-friendliness of grass-based products.

BAMBOO | STEM | ACOUSTIC PANEL

PlybooSound | Smith & Fong | 03-062500

Laminated bamboo boards, joined with ultra-low emitting adhesives (ULEF) are used in the assembly process, make this a product that is free of urea-formaldehyde. The composite is then mechanically manipulated to create unique acoustic panels that reduce ambient noise in a space.

BAMBOO | STEM | BAMBOO MESH

Nativebamboo | GKD | 08-108200

This composite mesh product is composed of stainless steel rods, woven with bamboo stem inserts. Nativebamboo comes in multiple sizes and thicknesses and is appropriate for indoor or outdoor applications, and can be hung for vertical or horizontal installations.

BAMBOO | STEM | COMPOSITE PANEL

Conbou Panel | Conbou | 03-061200

Conbou panels benefit from bamboo's structural efficiency by deploying bamboo stems in a truss-like geometry between two plates to create a strong, lightweight sandwich which can be used in a variety of applications such as wall assemblies and furniture.

BAMBOO | STEM | COMPOSITE PANEL

Stratum | Richlite | 04-068000

This laminated surface material embeds a layer of bamboo between contrasting layers of paper composite. The bamboo core contributes to the product's light weight, which provides a renewable, durable solution for tabletops, cabinets and other furniture applications.

BAMBOO | STEM | DECKING

BamDeck 3G Composite Decking | Cali Bamboo | 04-067313

BamDeck 3G is a waterproof decking product composed of 100% recycled materials, including 60% bamboo fibers and 40% high-density plastics. The planks are sealed on all sides, providing protection from moisture, staining, termites, fading, and scratches.

BAMBOO | STEM | ENGINEERED BAMBOO

Lamboo Structure | Lamboo Technologies | 03-061813

Lamboo's Structure products are made of laminated, engineered bamboo that can be used in heavy timber construction as well as glulam applications. The product is treated with environmentally safe, exterior preservatives to help prevent decay and rot.

BAMBOO | STEM | EXTERIOR SURFACING

Lamboo Elements | Lamboo Technologies | 03-062000

Lamboo's Elements series can be used in exterior applications such as cladding, decking, and other structures. The material has high dimensional stability, is pressure treated in order to prevent rot and exterior decay, is Class A fire rated, and uses and maximizes the yield of bamboo due to its low amount of defects.

BAMBOO | STEM | EXTERIOR SURFACING

Lamboo Rainscreen | Lamboo Technologies | 05-074623

Lamboo's Rainscreen products allow laminated bamboo to be integrated into wall cladding, siding, soffits, etc., and are treated with environmentally safe, exterior preservatives to help prevent decay and rot.

BAMBOO | STEM | FLOORING

PureForm Flooring | Teragren | 06-096223

This vertically laminated bamboo flooring offers a rapidly-renewable alternative for hardwood floors and wall panels. This product is dent-resistant and claimed to be harder than old growth wood. Its durability is enhanced by UV polyurethane and aluminum oxide finishes.

BAMBOO | STEM | RAW MATERIAL (TREATED)

Tre Gai Bamboo | Safari Thatch | 03-064000

Tre-Gai bamboo (*Bambusa stenostachya*) is a large bamboo species and one of the strongest bamboo types for structural applications due to its thick stem sidewalls. Displaying the typical tan color of this grass, its surface is scarred with pronounced nodes and a slight taper.

BAMBOO | STEM | RUG

La Carice by Kvadrat | Danskina | 10-124800

La Carice is a thick, tufted rug composed of 50% frisé wool and 50% bamboo viscose. The combination of these two materials gives the product a high pile and unique lustre.

BAMBOO | STEM | RUG

Bambusa by Kvadrat | Danskina | 10-124800

Bambusa is a rug composed of bamboo silk fibers, which is a type of natural viscose. To produce bamboo silk fiber, cellulose is extracted from bamboo, formed into a sticky paste, and then left to dry. Once dried, it is expelled to become a silky fiber.

BAMBOO | STEM | TEXTILE

Spun Bamboo EcoThreadz | Bamboo Clothes | 09-120513

These t-shirts are made from 100% bamboo fibers which are broken down chemically and then recomposed into viscose. The result is a soft, breathable textile suitable for apparel.

BAMBOO | STEM | TEXTILE

Xotic Bamboo Felt | National Nonwovens | 09-120513
This felt, made with a 50/50 bamboo-rayon blend, uses sustainably-sourced bamboo in place of more traditional fibers to create a soft, durable fabric.

BAMBOO | STEM | WALL COVERING

Bamboo | Maya Romanoff | 08-097223
Handmade bamboo wallpaper that is hand-painted, inlaid, and finished by craftsmen in Chicago. These wallpapers are Class A fire rated, durable, graded for color flow and seam well, and are easily cleaned.

BAMBOO | STEM | WINDOW SHADE/WALL COVERING

Bamboo Silk | Windochine | 10-122400
This hand-woven, open weave bamboo scrim is sheer, ultra-thin, and made of grasses native to Southeast Asia and China, including bamboo, buntal palm, abaca, raffia, bacbac fiber, jute, and pineapple fiber. The textile is produced by craftsmen according to traditional techniques, and applications range from window treatments to screening devices.

BAMBOO, REED | STEM | WINDOW SHADE

Reed Roman Fold Shade | Conrad | 10-122440
This handwoven window shade is made of bamboo poles interwoven with natural reeds and fibers from Asia. The product is mold and bacteria resistant, VOC-free, toxin-free, durable against light and heat exposure, and requires little maintenance. As the shade ages, the product develops a patina.

CORN | HUSK | RAW MATERIAL

Cornsilk Powder | Monterrey Bay Spice Company | 04-068000
Cornsilk powder is produced from the silky threads found under the husks of fresh corn, which are then dried and ground. The powder can be infused with oils and applied topically, used in tea blends, added to cooked foods, or consumed as a dietary supplement.

CORN | KERNEL | PACKAGING

DuraPulp | Sodra | 04-068000
Sodra DuraPulp is a packaging material that is made from a composite of wood fibre and Polylactic Acid (PLA), a polymer made primarily from cornstarch. Using these organic materials results in packaging that is completely biodegradable. This sample contains a seed which can grow out of the decomposed package.

CORN | KERNEL | PACKING MATERIAL

Biodegradable Packing Peanuts | U-Haul | 11-414119
Biodegradable packing peanuts are used to protect fragile items in storage or transit. Though many packing peanuts are made from non-renewable resources derived from fossil fuels, this product is derived from potato and corn starch. The use of this product has kept over 6 million cubic feet of styrofoam out of landfills.

CORN | KERNEL | PACKING MATERIAL

Green Cell Foam | Green Cell Foam | 11-414119
Green Cell Foam is a natural packaging material made from U.S. grown, non-GMO cornstarch. Manufacturing Green Cell Foam requires 70% less energy and produces 80% less greenhouse gases than petroleum-based foams. It is backyard compostable, biodegradable, and water soluble.

CORN | KERNEL | TEXTILE

Organic Corn Fabric | ZS Fabrics | 09-120513
This bio-based textile is made from corn fiber and naturally occurring plant sugars. The natural characteristics of corn lend the textile fire-resistance, moisture-resistance and low odor retention. Additionally, the textile is hypoallergenic and wrinkle-resistant.

CORN, RICE, WHEAT | STEM | FIBERBOARD

BioFlexi | BioMAT | 03-062600
Bioflexi is a highly flexible, high-density fiberboard made of 80 - 90% byproducts from annually renewable crops such as corn, rice, and wheat. The silicate content naturally present in rice straw gives it fire-retardant characteristics. It can be recycled or composted at the end of its life.

MEADOWGRASS | STEM | FLOORING

Terrace Flooring | Biowert | 04-067300
Biowert terrace flooring is a bio-composite made from 25% recycled plastics and 75% meadow grass fiber. This product is recyclable, durable, and resistant to scuffing, swelling, and shrinkage.

MEADOWGRASS | STEM | THERMOPLASTIC PELLETS

AgriPlast | Biowert | 04-068000
AgriPlast[®] is composed of 25% recycled plastics and 75% meadow grass. The manufacturing process exposes silage to warm water until only pure cellulose remains. These natural fibers are combined with thermoplastics for added stability, and the pellets seen here are used in the injection moulding and extrusion manufacturing of final products.

REED | STEM | FENCING

Reed Fencing | Safari Thatch | 10-323129
This screen is composed of young bamboo river reeds and bound with UV-resistant monofilament clear plastic. This product is commonly used as a screen or a decorative treatment for walls and ceilings.

RICE | GRAIN | EDIBLE RICE PAPER

Banh Trang Spring Roll Rice Paper | Three Ladies Brand | 10-120515
This non-GMO, gluten-free rice paper is most used in the making of spring rolls. The product is a combination of rice flour, tapioca flour, filtered water, and salt.

RICE | HUSK | BOARD

Pladec Bio Rice Bush | Pladec | 03-068300
This board material is derived from rice husks, which are often discarded or underutilized byproducts of processing rice for consumption. The composite boards are available in modular shapes or larger panels, and are appropriate for interior applications.

RICE | HUSK | BOARD

Rice Husk Board | Kokoboard | 03-062000
Rice husk board is made from agricultural waste from rice cultivation, and reduces CO2 emissions by utilizing a resource that would otherwise be disposed of through open field burning. The raw material is mixed with a binding agent, then pressed into panels. It is flame retardant, moisture and termite-resistant, and formaldehyde-free.

RICE | HUSK | CONCRETE ADDITIVE

Slipozz Rice Admixture | NK Enterprises | 01-032400

Rice admixture is produced by burning rice husk, which is a byproduct of rice milling. At around 500°C, the rice husk releases a siliceous component useful for concrete's durability due to reduced hydration heat, permeability and increased chloride and sulphate resistance - providing a biobased alternative to Portland Cement.

RICE | HUSK | DECKING

Bio-Composite Decking | REsysta | 04-067300

Decking by REsysta is made from 60% rice husk, an agricultural byproduct, combined with 22% salt and 18% mineral oil. It is recyclable, and resistant to water, termites, mold, and UV exposure. It can be modified easily during installation and maintained with minimum effort.

RICE | HUSK | RAW MATERIAL

Rice Hulls | Pillowganic | 03-068000

Rice hulls are a byproduct of processing rice grains for consumption. The edible portion of the rice plant is contained within a husk, or hull, which is often either discarded or used inefficiently. Many of the rice products in this collection were made using rice hulls as a composite material.

RICE | HUSK | TILES

Husk Series Mosaics | Sonite Innovative Surfaces Co | 05-093026

The Husk Series by Sonite Materials are manufactured with rice husk, a byproduct of rice milling. These lightweight mosaic tiles are chemical and stain resistant, though susceptible to heat, and are appropriate for interior use only.

RYEGRASS | STEM | BOARD

MeadowBoard | Meadowood | 03-062600

Meadowboard™ panels are composed of ryegrass stalk, taking advantage of the plant's high tensile strength and bendability. Collaboration with farmers is required to maximize the crop's output while reducing agricultural waste and air pollution, due to the conventional practice open field burning after seed harvesting.

SORGHUM | STEM | BOARD

Kirei Board | Kirei | 03-062500

This composite board is made from reclaimed sorghum straw, which is often discarded in the harvesting of the edible plant. Here, sorghum is laminated between bonding layers of poplar wood with a no-added formaldehyde adhesive.

SORGHUM | STEM | BOARD

Tiikeri | TorZo | 03-064000

This board features distinctive stripes that come from reclaimed sorghum straw strands, which are held together by acrylic resin. This product is mainly used for interior surfaces.

SUGARCANE | HUSK | PACKING MATERIAL

Sugarcane Containers | Eco-Products | 03-068000

These single-use food containers are derived from sugarcane. Though resistant to moisture and grease, they can also be lined with Ingeo™, a plant-based bioplastic, to improve durability. The products are compostable in commercial compost facilities, which diverts waste from landfills and improves vital soil resources.

WHEAT | GRAIN | WHEAT PASTE

Amaco Wheat Paste Powder | Amaco | 08-099000

Amaco Wheat Paste Powder is a modeling medium that mixes with cold water to form a paste that's ideal for papier-mâché projects. Materials such as newspaper strips can be dipped into the paste, applied to a rigid form, and dried to create a hardened shell.

WHEAT | STEM | ADOBE BRICK

Adobe Brick Block | Jose Lee Chibli | 01-042400

Adobe bricks are unfired masonry units made of earth mixed with straw and sun-dried. The earth includes both organic and inorganic material. Other additives can be used to improve the qualities of the material, including stabilizers such as cement or lime, animal hair or plant extracts. This brick was handmade in Coahuila, Mexico.

WHEAT | STEM | BOARD

Durum | TorZo | 03-064000

Durum™ is made from 50 - 70% post-agricultural wheat stalk, with no added urea formaldehyde. The product is infused with an acrylic resin, allowing for easy modification during installation. It is ideal for durable surface applications such as furniture, countertops, and flooring as well as vertical surfaces.

WHEAT | STEM | COMPOSITE BOARD

Wheat Board | Kirei | 03-062500

Kirei wheatboard is a composite board material composed of 90% wheat. It contains 90% pre-consumer and post-consumer recycled content, as well as a low emitting bonding materials that includes no added urea formaldehyde.

WHEAT | STEM | EROSION CONTROL BLANKET

BioNet Erosion Control Blanket | North American Green | 10-312513

BioNet biodegradable erosion control blankets contain a straw and/or coconut fiber matrix stitched between a biodegradable natural fiber top and bottom nets. The product is ideal for bioengineering applications, and environmentally sensitive sites such as stream banks and shorelines.

WHEAT | STEM | STRAW BALE

Straw Bale | Callahan's General Store | 03-329300

Straw bales are bundles of non-edible stalks from the bycrops of wheat, rice, or other cereal crops. Unlike hay bales, the seeds have been removed. Bales vary in size and can take the shape of a square, rectangle, or cylinder. In construction, straw bales can be used as structural elements, thermal insulation, or both.

WHEAT | STEM | STRUCTURAL INSULATED PANEL

Agriboard | Agriboard Industries | 03-061800

Structural insulated panel made of compressed wheat straw. It achieves several LEED credits: no job site waste, high energy efficiency and energy costs, and local and regional materials.