

Overview

By Chris Lefteri, WGSN-homebuilidlfe, 21 December 2011

With its warm tone and natural textured grain, there really is no other material comparable with wood. But it seems that people often take this wonderfully versatile yet humbly reliable material for granted.

We tend to generalise the term "wood" much in the same way as plastics, yet the sheer diversity afforded by the enormous quantity of species and varieties available is astounding, each exhibiting unique physical and aesthetic characteristics. For instance the timber from a pine tree is relatively soft and easily carved, whereas something like larch is naturally very hard and durable. For any given species the attributes will vary tremendously and there is a real beauty in applying these properties in a sensitive and appropriate way.

Wood is undergoing a huge transformation in order to keep up with modern alternatives like plastic and metal that offer unfounded processing and moulding capabilities. In the plight to compete, excessive experimentation and inspired material concoctions are being investigated to fashion exciting new composites that are reviving wood for the technical and mass-produced markets – as witnessed with injection mouldable wood in Evolve. In addition, alternative processing techniques are being explored such as Wood Welding in Process, that are broadening and cross-breeding manufacturing opportunities while the contrasting combination of wood with advanced electronics in technology sees everything from mobile phones to bicycles crafted from this classic material to add unusual charm to typically plastic products.



Wood paper at Inventables

* KEY TRENDS

- A growing awareness towards responsible green living is seeing designers shun the use of virgin materials in favour of recycling weathered woods that add character and romanticism through a storytelling element
- Experimental manufacture is challenging our perception of this ancient material and defying previous restrictions in its production to broaden future fields of application
- Unexpected combinations of materials are being blended with natural woods to enhance their inherent properties and deliver greater performance for specific and diverse uses
- Electronic and technical goods conventionally produced in plastics or metals are given a craft-like aesthetic when combined with a carved wooden exterior that evokes a nostalgia for times past
- Material perception is challenged when surprising or unusual sources such as coconut shells are tapped into and applied to mass-produced goods

Fakers

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Alpicord by Alpi



Syntrewood by Lasentiu

A con artist of sorts, wood laminates offer the beautiful appearance and texture of natural wood in a huge variety of grain patterns and tones to any material when it is applied to the surface like a second skin.

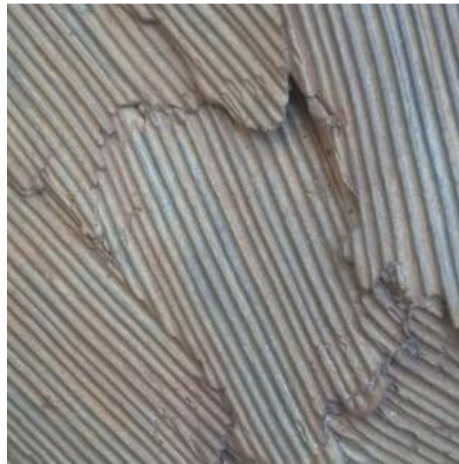
www.alpi.it

Recycled bottles and caps, plastic bags and card are all blended together to produce this wood imitation material that can be machined and worked just like a wood.

www.lasentiu.com



Wooden Forms by Peter Marigold



Wooden Forms by Peter Marigold



Decorative wood composite at Inventables

British furniture designer Peter Marigold has fashioned wooden impressions in metals and plaster using hot wax to cast the texture. He says of the project, "The forms are wooden in that they have been created using wood rather than being made of wood. They therefore reference wood as an active verb rather than a monumental noun."

www.petermarigold.com

Replacing both fine wood and lumber in architectural applications, this versatile wood composite with its dramatic grain pattern is made from the stalks of the sorghum plant that are heat pressed with a water-based adhesive to produce this

lightweight strong board.

www.inventables.com

Technology

By Chris Lefteri, WGSN-homebuildlife, 21 December 2011



Solid wood iPhone dock by Koostik

These hollowed out, hemispherical sound chambers hand-carved from a single solid block of wood, amplify the sound of any iPhone for a lo-fi, low cost and technologically simplistic sound system that requires no power.

www.koostik.com



The Perfect Unison by David Burela

Dutch designer David Burela seamlessly fuses the natural and classic aesthetic of wood with modern technology in these sleek, single strip headphones carved from birch plywood.

www.theperfectunisonnews.blogspot.com



Maple Phone by Hyun Jin Yoon and Eun Hak Lee

Comprising two smooth blocks of maple wood that slide apart, this mobile phone concept combines the timeless classicism of wooden forms with advanced electronics that expresses a romantic juxtaposition of materials and technology.



Biodegradable car by Albrecht Birkner in collaboration with Kenneth Cobonpue

This futuristic concept vehicle by Albrecht Birkner in collaboration with Kenneth Cobonpue, presented at Milan design week 2011, is constructed from a combination of sustainably-sourced rattan wood and bamboo so that the car will biodegrade at the end of its life of use.

Although in the early stages of its conception and

far from roadworthy, the concept presents an alternative future of materials within automotive design.



iTree by KMK Studio



Wooden radio by Magno

Merging the natural and unassuming aesthetic of raw wood with digital music technology, this huge tree trunk has been delicately carved into a high performance speaker system by Austrian Design house KMK Studio.

Toy-like in its appearance, the simplistic detailing of this wooden radio with its clunky large dials and contrasting wood shades translates electronics into pieces of crafted furniture.



Contemplating Monolithic Design by BarberOsgerby & Sony Design

Exploring the ways in which technology and furniture can co-exist, British design duo BarberOsgerby collaborated with Sony Designs to present this solid wood speaker with a 360 degree acoustic field that embodies a new archetype for speaker design.

Salvage

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Richmond Olympic Oval by Cannon Design



Yucca Crater by Ball Nogues Studio

Arching over an impressive speed skating rink, this elegant skeletal structure is constructed from a cross-laminated lumber that is sourced from trees that were killed by the Pine beetle infestation that has devastated almost half of Colorado's forests. Strong, fire-resistant and attractive, this cross-laminated timber provides a viable alternative to concrete and steel construction materials while preventing the waste of an enormous quantity of wood.

www.cannondesign.com

Located in the desolate and sparse plains of a desert in California rises this organically shaped crater made from plywood that has been reclaimed from a previous building project. In fact the two structures were designed in unison to allow for the greatest re-use of material with the skeleton structure and method of production becoming the central aesthetic that doubles as both a climbing frame and pool.

www.ball-nogues.com



Hardwood flooring by Bolefloor



Mango wood bowls

Snaking seamlessly, these unusual curved edges portray and follow the natural curvature of

The mango tree is worth far more than just the fruit it bears. The species grows at a notably fast

the tree growth that not only creates a visually striking aesthetic but reduces wasted wood by using as much of the tree as possible. Both surreal and poetic in its appearance, this product offers a responsible alternative to the typically straight edged boards that we have become accustomed to and ultimately offers more flooring per forest.

www.bolefloor.com



Salvaged wood headboard by House Tweaking

Raw and distressed fencing planks are reclaimed and amalgamated to create this elegantly rustic headboard that breathes a new lease of life into this otherwise waste material.

www.housetweaking.com

rate but are often cut down and burnt once reaching a certain size when they stop producing fruit. However, this wood has a beautifully rich and colourful grain pattern exhibiting an array of colours including green, yellow and even hints of pink when delicately carved.

www.mangowoodhome.com



Home Emperor Seat by Still Novo Design

French wine barrels are reimagined as solid stools by Still Novo Design with the red wine-stained oak cut into small strips that preserve and integrate the natural arch of its previous form to create this alluring bowed silhouette.

www.etsy.com



Treeless Treehouse by Roderick Romero



Treeless Treehouse by Roderick Romero

Artist, musician and renowned treehouse builder Roger Romero has constructed this explosive and energetic framework structure from a blend of 100% reclaimed Brazilian hardwoods described as a

"tornado" of wood.

www.romerostudios.com

Process

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Folding wood by Snijlab

Dutch digital designers Snijlab have accomplished a manufacturing feat with their foldable wood sheet that uses the conventional laser cutting technique to create tiny and intricate cuts that allow for the rigid sheet to bend in multiple directions without snapping or breaking.

www.snijlab.nl



Wood welding

The result of a fortunate accident in a woodworking studio, the process of welding can now be applied to wood allowing two surfaces to be joined without the need for glues or screws. The process uses ultra high-speed vibration that "melts" the cell structure within the wood and causes the fibres to entangle and form a single piece.

www.nordicforestresearch.org



Bendy Wood

Warping our perception of the rigid and stiff properties of wood, Bendywood transforms hardwoods into fluid and flowing forms that maintain the warm and gentle feel of wood while offering unprecedented opportunities within furniture production.

www.bendywood.info



Tree-D Printing by Freedom of Creation



Tree-D Printing by Freedom of Creation



Poured Wood Stool by Henry Lawrence

In development for over two years, Dutch rapid-prototyping experimentalists Freedom of Creation have invented a method for constructing intricate and delicate forms in wood using a 3D-

Equal parts of wood and rubber are combined to create a mould for concrete to be poured into,

printing technique conventionally used for plastics.

www.freedomofcreation.com

culminating in a flowing grain-like impression on the exterior of the moulded stool.

www.henrylawrencestudio.com

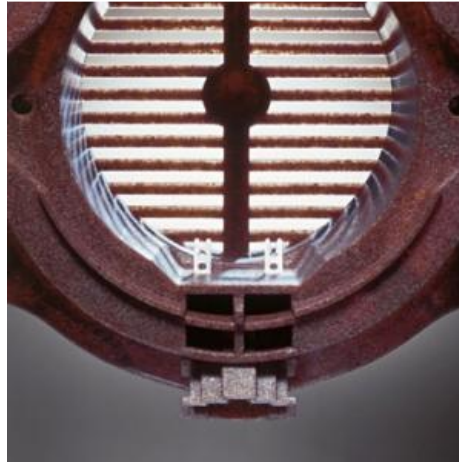
Evolve

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Wooden bone

Scientists in Italy have made a ground-breaking discovery in the development of artificial replacement bones using a type of wood that is typically used to produce furniture. Injected with chemicals including calcium, the cross section of the rattan wood substance created is almost identical to human bone and actually fuses with the natural bones so that eventually the join will no longer be visible.



Injection mouldable wood by Werzalit

Combining the workability and appearance of a wood with the manufacturing possibilities and viscosity of a plastic, this hybrid material is blended from polypropylene and wood chips to mould forms in such detail and complexity never before possible in wood.

www.werzalit.com



Valchromat engineered coloured wood by Investwood

Dubbed as an evolution of MDF, this panel sees wood fibre dyed with organic colourants before being chemically bonded with a special resin to give it unique physical and mechanical properties.

www.investwood.pt



Thermowood by Finnforest

The moisture content of this Finnish timber is reduced



Medite Ultralite MDF

Preserving the uniform surface smoothness and

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Translucent wood at Inventables

Light and shadows become visible through the grain

using a steam-heating process to deliver a lightweight and stable wood that is naturally water and fungi resistant without the use of any chemical additives.

www.finnforest.co.uk

stability of a conventional MDF, this lightweight alternative is exceptionally strong and rigid while significantly reduced in weight to alleviate handling and machining.

www.medit-europe.com

pattern of this thin slice of wood that has been sandwiched between two plastic sheets.

www.inventables.com

Unconventional

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American Black Walnut bicycle by Lagomorph



Wooden glasses frames by Proof

Combining his passion for both wood and cycling, furniture-maker Seth Deysach designed this elegant single speed bike with a powerful geometric structure and exposed joins from a rich American Black Walnut timber.

www.lagomorphdesign.com

Not only visually striking but environmentally friendly, these glasses frames use 100% sustainably sourced wood instead of the conventional plastic. The initiative is not only eco-friendly in terms of materials – for each pair purchased one is sent to a recent sight-surgery patient in India.

www.iwantproof.com



Bamboo Chocolate Factory, Sibang, Bali



Eco-Sustainable House, Antony, France by Djuric Tardio

Credited as the largest all-bamboo commercial building ever constructed, this impressively daring structure in Bali houses a chocolate factory. The bamboo imposes a uniquely raw aesthetic while offering a strong and sustainable

At first glance the roof of this house may appear incomplete, but this exposed frame structure is a pivotal design feature of this eco house as it serves as a food growing facility.

alternative construction material.

www.djuric-tardio.com

www.bigtreefarms.com



Bamboo flooring by Top Wood Flooring



Stadthaus, London by Waugh Thistleton

Hard-wearing and strong, this sustainable alternative to hardwood flooring has a beautiful, fine and distinctive grain pattern.

www.topwoodflooring.com

The pixelated exterior cladding of this nine-storey timber building in Hackney is composed from 5,000 individual British Sweet Chesnut panels in shades of grey, black and white that portray patterns in light and shadow. The structure will save 125 tonnes of carbon emissions in comparison to a concrete structure.

www.waughthistleton.com



Coconut shell tiles at Inventables



Wood paper at Inventables

Reclaimed coconut shells from the food industry impart a tropical flair in these decorative tiles that propose a unique and novel new purpose for this discarded material.

www.inventables.com

Real woods including maple, cherry and birch are sliced into ultra-thin sheets that bring the natural and warm appearance and texture of wood to applications such as electronics where wood could not be used before.

www.inventables.com

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Wood pellets by Forever Fuels

Rising oil costs have caused the popularity of wooden pellet stoves to soar as a sustainable and efficient alternative for heating the home.

Made from recycled sawdust without the use of any plastic binders, these pellets are inexpensive and produce very little waste.

www.forever-fuels.com