

Compostable composites from renewable sources

Sheila Clark

January 2018

Images: Sheila Clark

Bio-resin

Early experiments with bio-resin



Face of bio-resin with LED, made in silicon madeleine mould



Rear of bio-resin, with LED made in silicon madeleine mould



Face of bio-resin and aluminium powder made in silicon madeleine mould



Face of bio-resin and aluminium powder with non-woven flax reinforcement, made using pobble mould



Cocoa shell waste



Face of bio-resin with cocoa shell, made using pobble mould



Detail of face of bio-resin with cocoa shell, made using pobble mould

Bio-resin and jute coffee sack, made using pobbles mould





Waste jute sacking from imported coffee beans used as reinforcement material

Face of bio-resin with jute sacking reinforcement, made using pobble mould



Rear side of bio-resin and jute sacking, made using pobble mould



Face of bio-resin with jute coffee sack reinforcement showing plaster from mould, made using pobble mould



Rear face of bio-resin and jute coffee sack, made using pobble mould

Dyed jute fabric and bio-resin with aluminium powder, made using pobble mould



Glove-box lid

Original glove-box lid in Jesmonite mould



Laying up the mould with a gel-coat of bio-resin and jute coffee sack

Making the glove-box lid



Laid up mould

Detail of bio-resin glove-box lid





Glove-box lid made with bio-resin and aluminium powder, partly sanded in left corner



Glove-box lid made with bio-resin

Door panel

Silicon jacket for inner door panel



Making the inner door panel





Vacuum bagging the inner door panel



Vacuum bagging



Rear face after vacuum bagging



Peeling off the protective film



Broken part of outer door panel



Broken part of outer door panel



Detail showing flaws in the bio-resin surface in the broken part of outer door panel



Door panel: inner part bio-resin, Nextel painted outer part



Close up of bio-resin inner inner door panel part, and Nextel painted outer door panel part



With special thanks to:

Amen, Arden, Bridge of Weir Leather,
Bronze Age, Cambridge Biopolymers,
Carnot, Campaign for Wood,
Composites Evolution, The Dore
Company, Eco-Technics, Fenwick,
FFF Group, Gullford, Heathcoat,
Markemcor, Schaefer, Trol &
Duncan

Awards

Royal College of Art staff development fund
Tasle Society professional development award
Worshipful Company of Weavers

Reduce, Reuse and Natural
Recycle, Reuse and Natural
R R

Completed door

Biotex

A series of small scale formed parts for low weight panels, using renewable materials



Biotex twill weave structure, formed in pobble mould



Biotex hopsack weave structure, formed in pobble mould

First experiments with Biotex



Woven reflective and wool textile with Biotex, formed in pobble mould



Woven metal and polypropylene textile with Biotex, formed in pobble mould



Rear face

Biotex hopsack weave, dyed yellow and formed in pobble mould



Biotex twill weave, dyed black and formed in pobbles mould



Rear face



Woven wool textile and Biotex, formed in pobble mould



Rear face



Repeat Deco design, wool/nettle woven textile with Biotex, formed in pobble mould



Repeat snow design, wool/nettle woven textile with Biotex, formed in pobble mould

Repeat Deco design, woven wool/nettle textile with Biotex, formed in pobble mould

