



Dalby Forest Visitor Centre

North York Moors Forest District, Outgang Road, Pickering, YO18 7EL

Dalby Forest Visitor Centre

On the 2nd of April 2007 a new eco-friendly visitor centre will be opened with a press launch. This building is one of the Forestry Commission's first visitor centre with sustainability as its main focus. This report describes the various features that make this building unique and it provides details on the organizations involved in the construction of it.



Architect

White Design

The Proving House, 101 Sevier Street, Bristol, BS2 9LB

<http://www.white-design.co.uk/WhiteDesign/Dalby.html>

David Noble from White Design was the architect for the building. He was an inspiration to work with and had a massive amount of ideas for sustainable alternatives to the conventional building materials. We have had to make some interesting discussions on inevitable compromises and David was great at presenting the various alternatives available to us.

Structural Engineers

Godsell Arnold Partnership Ltd

Manor House, 1 Macaulay Road, Broadstone, Dorset, BH18 8AS

Tel: 01202 600900

Email: gap@gapltd.eu.com

www.gapltd.eu.com

Project Management Company

Turner & Townsend

Low Hall, Calverley lane, Horsforth, Leeds, LS18 4GH

Tom Moorcroft was our appointed project manager, with appropriate expertise in the building and construction world.

His role was to manage procurement according to EU and national standards, the contracts with sub-contractors and the budgets. The project was delivered within the agreed timescale and budget.



Construction

Miller Construction was the main building contractor. All other contracts were sub-contracted via Miller's. The success of the project was for a great part due to the efforts and enthusiasm of Adrian Kelly, the site manager.

Miller Construction

Miller House, Pontefract Road, Normanton, West Yorkshire, WF6 1RN

tel: 0870 336 4300

<http://www.construction.miller.co.uk/>

The building is set on a steel frame, held on the ground with 39 screws that go up to 14 meters into the soil. This way to structure of the soil is not being affected.

As and when parts of the building need replacing, every element can be used again elsewhere or recycled.

Screwfast Foundations Ltd

7-14 Smallford Works, Smallford Lane, St Albans, Herfordshire, AL4 0SA

Tel: 01727 821282

info@screwfast.com

<http://www.screwfast.com/product.php?id=23&pid=51>

Build it Green Ltd provided the glu-laminated frame structure for the building and the cassettes that form the flooring and wall structure. The timber and cassettes are FSC* certified Scandinavian hardwood.

Build it Green Ltd

Arena Business Centre

9 Nimrod Way, Ferndown, Dorset BH21 7SH

<http://www.buildit-green.co.uk/>



Cladding – Dalby Forest Larch

We had some interesting discussions about the cladding for the building. There are various types of timber used to clad buildings, most of which is timber that needs to be imported so Brian Stephenson, our local timber merchant was approached to see if there was any chance of using local timber and what type of wood was available.

Larch was chosen – with a finely sanded finish on the inner walls and a rough finish on the outside of the building. This timber weathers differently according to the finish which provides an interesting and distinctive look. Using local timber this way also made the costs of cladding slightly lower than the alternatives.

Mechanical & Electrical Engineering Works

Halcrow

Arndale House, Otley Road, Headingley, LS6 2UL

For M&E Miller Construction appointed Halcrow, who designed a complicated Building Management System to manage the temperatures of the various parts of the building. This system has a number of complex features that require fine-tuning to ensure maximum efficiency of the building.

Renewable Energy – Building Management System

Heating

Renewable Energy – Biomass Heating

Talbotts Ltd

Drummond Road, Astonfields Industrial Estate, Stafford, ST16 3HJ

Tel: (01785) 213366

<http://www.talbotts.co.uk>

The Talbotts Biomass Heating system was also a compromise between using a highly efficient Scandinavian Boiler, which runs on relatively expensive pellets that have to be imported from Scandinavia – with all the relating environmental impact of transport - or a less efficient boiler, but that runs on wood chippings available from the local forest.

Renewable Energy - Wind – Swift

Renewable Devices Swift Turbines Ltd

Bush Estate, Edinburgh, EH26 0PH

Tel: 0131 5353301

Email: info@renewabledevices.com

<http://www.renewabledevices.com/swift/>

The wind turbine is located on the south elevation of the building and the peak power is 1.5kW.

Electricity

Renewable Energy – Solar Photo Voltaics

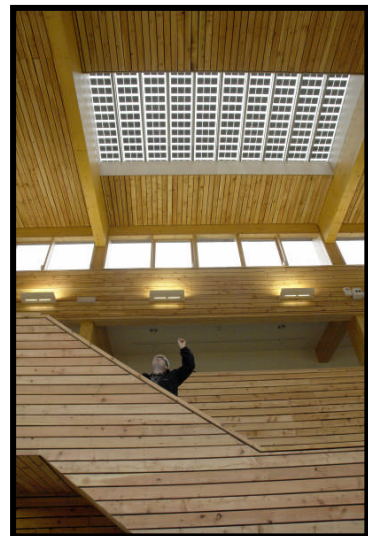
Solar Technologies

Unit 51 Romsey Industrial Estate, Greatbridge Road, Romsey, Hampshire, SO51 0HR

Tel: 01794 830154

Email: info@solartechnologies.co.uk

The PV array is located on the roof as part of the atrium and consists of 10 bespoke solar modules. The peak power of the array is approximately 920W.



Interpretation - Orange Box Design

Having seen Orange Box Design's work at Lockton Youth Hostel – England's first Eco-hostel – and considering the sustainable ethos of the organisation, we invited this company to tender to interpret the building, its sustainability features and sustainable development in general, in the exhibition space. Their ideas were not only the most exciting and creative of all tenders, their passion for getting the right message across made them the obvious choice to interpret the building to the general public.

Orange Box Design

1 Greenhill, Wirksworth, Derbyshire, DE4 4EN

Tel: 01629 826284

peelme@orangeboxdesign.co.uk

<http://www.obdesign.co.uk/>



Recycled plastic sheets – used for the doors in the public toilets

Smile Plastics

Colin Williamson, Mansion House, Ford, Shrewsbury, SY5 9LZ

Tel: 01743 850267,

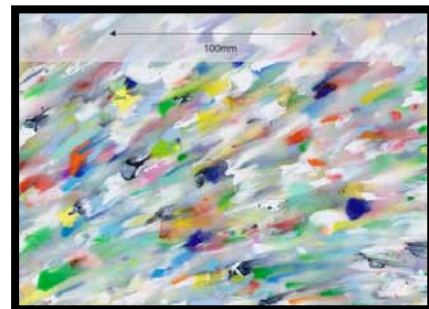
<http://www.smile-plastics.co.uk/>

CJW@Smile-Plastics.co.uk

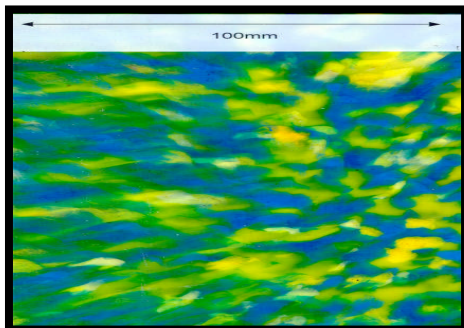
Bottle

The bottles used are from various UK municipal authority collection schemes. The exact mix will vary according to the area from which the bottles are collected, fashion in bottle colours, and the season of the year. The manufacturing process produces a characteristic flow pattern resulting in a central 'spotted' spine which extends and streaks outwards towards the edges and corners. Unfortunately, sorted bottles are no longer available in the UK.

Most woodworking tools can be used, the solid, multicoloured core requires no edging and surface finishing is not needed. The sheets are easy to work and can be sawn, drilled, routed, planed using conventional workshop tools.



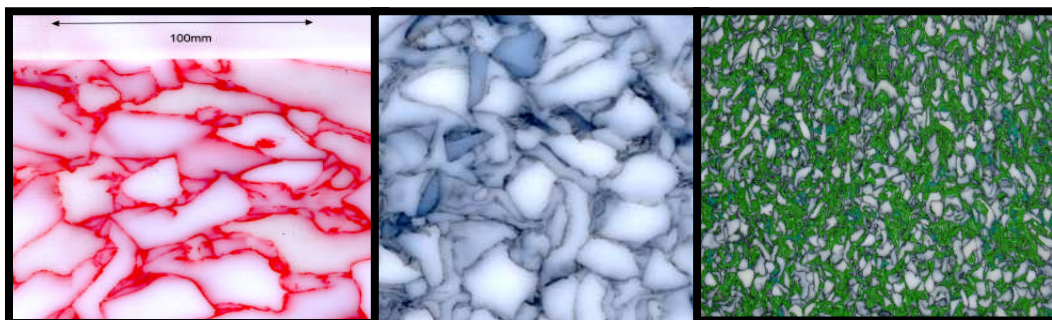
Jazz



So many services are now piped underground that the industries have agreed on a colour coding system for plastic pipes. The offcuts from these pipes are used and mixed to produce this bright Jazz range; blue comes from the water industry and yellow from gas pipes. They can be made up from any combination and any ratio of these colours plus white and black. The surface is planed.

Dapple

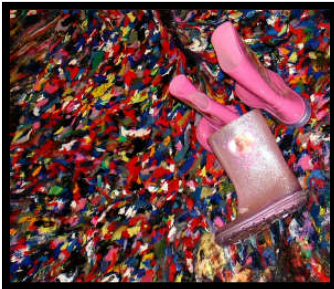
This is made from shredded industrial foodstuff containers, mixed with some of our own factory scrap. The coloured veins are added in the recycling process.



Wellies

Kids grow out of their coloured wellie boots so quickly and thousands of pairs end up unsold in charity shops and eventually disappear into landfill sites with the other garbage.

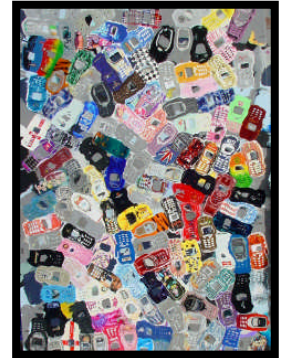
Smile Plastics has managed to divert them and, by a process of heat and up to 1000 tons of pressure, squashed them into 3mm thick sheets. Soft, rubbery and tactile, the sheets are ideal for table coverings, bar and bar-stool tops or even used as waterproof mats for bathrooms and kitchens.



The shredded wellies can be used as flooring but a consistent thickness cannot be guaranteed and they may shrink if not glued down securely.

Mobiles

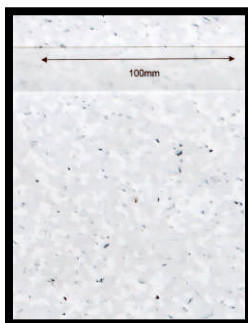
Today your mobile is the essential fashion accessory, with personalised cases and ring tones making your own lifestyle statement. And as the latest gotta-have piece of hi-tech communication hits the street, the old mobile gets traded in down at the Orange Shop, to join our ever increasing waste mountain. There are about 45 million mobiles in the UK and every year 15 million of them get discarded. Some are refurbished and sold again but most of them are shredded and landfilled.



But EU regulations are coming on stream very shortly which will force manufacturers and retailers of anything that runs on electricity to set up schemes for recycling old equipment as soon as the customers have finished with it. Everything from washing machines and TV sets to MP3 players and torches will be included and companies are struggling to find new applications for recycled materials. This is where Smile Plastics get involved.

The batteries, SIM cards and electronics are removed and Smile convert the cases to 6-8mm thick sheets that can be used to make tabletops, display panels, or just hung on the wall as works of art. Each phone case can be seen in distorted, tortuous detail, compressed into two dimensions but still clearly identifiable as someone's personalised mobile, saved from the landfill and preserved for ever as a table top or even as the latest style in coasters.

The sheets are made from nothing else but old mobiles, no additives, no resins, just plastic phone cases.



Yoghurt Pots

This range of sheet materials is made from high impact polystyrene and are more neutral in colour than the bottle sheets. They are also much harder, denser and more rigid and can also be fixed using adhesives.

Yoghurt pot sheets are used, however the supply of yoghurt pot scrap does vary, currently we cannot get the material with the bits of foil.



Investigation in progress

Rainwater Harvester

Stormsaver Ltd, Offices 7-8, Roewood Courtyard, Winkburn, Newark, Nottinghamshire, NG22 8PG

Tel 0870 7536750

enquiries@stormsaver.com

www.stormsaver.com

Sewage Plant

Flooring in Atrium

Oak Flooring in exhibition, restaurant and community room

Drainage membrane underneath terrace

Low Energy Lift

Recycled Carpet

Recycled Lino

1 - Build It Green (UK) Limited
Arena Business Centre
9 Nimrod Way
Ferndown Industrial Estate
Ferndown
Dorset
BH21 7SH
Telephone: 0870 2000 358
Fax: 0870 2000 368
Email: info@builditgreen.co.uk

2 - Smile Plastics
Colin Williamson or Sue
Mansion House
Ford
Shrewsbury
SY5 9LZ
Telephone Number : 01743 850267
Fax Number : 01743 851067
E-mail Address : SmilePlas@aol.com

3 - Talbotts Ltd
Drummond Road
Astonfields Industrial Estate
Stafford
ST16 3HJ
United Kingdom
Tel: (01785) 213366
Fax: (01785) 256418
<http://www.talbotts.co.uk>

4 - Renewable Devices Swift Turbines Ltd
SAC Bush Estate
Edinburgh
United Kingdom
EH26 0PH
Tel: +44 (0)131 535 3301
Fax: +44 (0)131 535 3303
info@renewabledevices.com

5 - Stormsaver Ltd (Rainwater harvesting)
<http://www.stormsaver.com/page.asp?pid=1>
Stormsaver Ltd
Offices 7-8
Roewood Courtyard
Winkburn
Newark
Nottinghamshire
NG22 8PG
Tel 0870 7536750
Fax 0870 7537750
enquiries@stormsaver.com

6 - Viessman Ltd Solar hot water
Viessmann Ltd
Hortonwood 30
Telford
TF1 7YP(Road Map)
Shropshire
Tel: [01952 675000](tel:01952675000)
Fax: 01952 675040
Internet: www.viessmann.co.uk

7 - Nobbs & Jones Limited
70 - 71 Roman Way
Longridge Road
Preston
Lancashire
PR2 5BE
Telephone +44 (0)1772 655500
Facsimile +44 (0)1772 655600
[E-mail info@nobbs-jones.com](mailto:info@nobbs-jones.com)
<http://www.nobbs-jones.com/>

8 - Turner & Townsend
Stephanie Hull
Low Hall
Calverley lane
Horsforth
Leeds
LS18 4GH

9 - White Design
The Proving House
101 Sevier Street
Bristol
BS2 9LB

10 Halcrow
Arndale House
Otley Road
Headingley
LS6 2UL

11 - Steve McManaman
Miller Construction
Miller House
Pontefract Road
Normanton
West Yorkshire
WF6 1RN

Solar Technologies PV

Condor sewage technology
Sewage Treatment Plant. Klargester,
Klargester Treatment systems,
01296 633000, klargester
0870 1690007
<http://www.condorproducts.com/>

Outputs

1 Centre Manager	Tanya Rex
¼ FTE Information Assistant	Jane Peckett
½ FTE Cleaner	?
½ FTE Window Cleaner	?
5 ¾ Restaurant Staff	?
1 New Business	16 March 07 - interviews

Other Sustainability/Environmental Features

How about this for a new house!

<http://www.earthship.org/>

Roofing material

<http://www.alwitra.co.uk/evanlonsolar.html>

Evalon roofing material incorporates a film of photovoltaic cells into the construction and can be used for flat as well as ordinary roofs. The cost is relatively low.

Lighting - LED

The amount of electricity used by LEDs is only a fraction (0.5%) of conventional lighting.

<http://www.maplin.co.uk/Search.aspx?criteria=LED%20GU10&source=15&SD=Y>

<http://www.lighting-direct.co.uk/indoor-outdoor-led-c-20.html>

www.greenled.co.uk

Insulation materials

<http://www.naturalinsulations.co.uk/>

<http://www.greenbuildingstore.co.uk/store.php#thermafleece>

Compost loo

Adam East, Eastwood Services (composting toilets)

Kitty Mill, Wash Lane, Wenhaston, Halesworth, Suffolk, IP19 9DX

Business: 01502 478165

Mobile: 07740 287535

E-mail: adam.eastwood-services@virgin.net

<http://www.sun-mar.com/>

Instead of a permanent solar panel – this is the one I bought

http://www.sunshinesolar.co.uk/item--Sunshine-Personal-Power-Kit-***Discounted-Package-DEAL!***--OFFER3

Water butts

<http://www.waterbuttsdirect.co.uk/contact.htm>

Rainwater harvesting

<http://www.odm.co.uk/rain-unlimited/Links.html>

Green building shops

<http://www.greenbuildingstore.co.uk/index-store.php>

http://www.recycleworks.co.uk/cgi-bin/store/RCYstore.cgi?user_action=link&link=mainpage

<http://www.alternativetechnology.org.uk/>

<http://www.cat.org.uk/index.tpl?refer=index&init=1>

Calculate your environmental impact

<http://www.clevel.co.uk/homecalc.html>

Demonstrate how renewable energy works

http://www.ecostyle.co.uk/renewable_energy_kits.htm

The rickshaw came from a company in Leicester, Cycle Magic, a contact of Rob Brock -

<http://www.cyclemagic.org.uk/index1.htm>