

Work package	4
Task	4.1 Design of prototypes
Deadline	31.03.07
Status	Completed – 31.04.07
Work package leader	Nick Cliffe, Green-Works
<b>Objectives</b>	
<ul style="list-style-type: none"> <li>• Specification for 5 different prototypes – specs and designs to be based on the information obtained in WPs 2&amp;3. These products will be those considered most likely to be ‘accepted’ in the marketplace – they will need to be constructed with the minimum amount of labour input for reworking and to a standard that meets recognised performance levels</li> </ul>	
<b>Method</b>	
<p>Based on information on the material stream 5 products were designed following a standard process:</p> <ol style="list-style-type: none"> <li>1. Specification</li> <li>2. Concept sketches</li> <li>3. CAD designs</li> </ol>	
<b>Executive Summary</b>	
<p>Five product specifications have been developed based on experience and an examination of the available material stream. Each product (or group of products) was intended to reflect and be adaptable to the limitations of using reclaimed material from surplus contract furniture.</p> <p>The five products designed were:</p> <ol style="list-style-type: none"> <li>1. Cube storage system</li> <li>2. Home study desk</li> <li>3. Kiddi Furniture</li> <li>4. <i>BekCase</i> (modular bookcase)</li> <li>5. <i>Flying Carpet</i></li> </ol>	

## Green-Works Product Prototype Specifications

### Product 1: Cube Family

- Designed to be a modular storage system that can be created from a wide range of available material – from 18 top 30mm melamine faced chipboard.
- Different sizes of Cube have been prototyped to ensure that no matter the size of recovered panel some kind of product can be created.
- Cubes can be locked together using pre-drilled holes and Interscrews to create stable structures.
- Doors can be added if required.

Prototype sizes to date:

	Dimensions	Material	Panel sizes	Fittings	Edging
Standard Cube	500x500x350mm	25/28/30mm reclaimed chipboard or MDF	2 - panels 496x346mm 2 - panels 450x346mm	16 - 8x40mm beech dowels	2584mm of ABS 33x2mm edging
Kiddi Cube	350x350x300mm	18/19mm reclaimed chipboard of MDF	2 – panels 346x296mm 2 – panels 312x296mm	8 – 8x30mm beech dowels 12 – cam dowels 12 – cam locks	1908mm of ABS 23x2mm edging
Record Cube		18/19mm reclaimed chipboard or MDF	2 – panels 346x334mm 2 – panels 336x346mm 1 – panel 334x130mm	4 – 8x30mm beech dowels 12 – cam dowels 12 – cam locks	2366mm of ABS 23x2mm edging
Mini Cube		18/19mm reclaimed chipboard or MDF	2 – panels 296x196mm 2 – panels 196x264mm	12 – 8x30mm beech dowels	1512mm of ABS 23x2mm edging

### Product 2: Home Study Desk

- Designed as a small flat-pack product, suitable for home or small office use
- Sizing assumes use of laptop or flat-screen monitor
- Desk can be easily scaled depending on available panel size and end-user requirements.

	Dimensions	Material	Panel sizes	Fittings	Edging
Home Study Desk	1000 x 600 x 725mm	25/28/30mm reclaimed chipboard or MDF	1 – panel 996x596mm 1 – panel 910x298mm 2 – panel 698x556mm	13 – 8x40mm beech dowels 14 – cam dowels 14 – cam locks 1 – hole cap cover D80mm	7998mm of ABS 32x2mm edging

**Product 3 – Kiddi Furniture**

- Kiddi range designed to use available MDF (which is heavy to use for other items)
- Veneered MDF is completely ground down to give uniform finish suitable for painting
- MDF allows for round edges for safety reasons

	Dimensions	Material	Panel sizes	Fittings	Edging
Kiddi Stool		25/28/30mm ground down to 18mm reclaimed MDF	2 – panel 323x280mm 1 – panel D350mm	4 – cam locks 4 – cam dowels	none
Kiddi Table		25/28/30mm ground down to 18mm reclaimed MDF	2 – panel 700x500mm 1 – panel D800/900mm	8 – cam dowels 8 – cam locks	none
Kiddi Chair		25/28/30mm ground down to 18mm MDF	2 – side panels (see drawing) 2 – panels 300x50mm 1 – panel 300x200mm	10 – cam locks 10 – cam dowels	none

**Product 4 - Bek Case**

- Shelving system designed to allow for limited available panels sizes that can be reclaimed from office furniture. Largest panel required to make full size bookcase is 746 x 346mm
- Design made up of base unit of 2 shelves and a modular hood – which can be added to provide additional shelves

	Dimensions	Material	Panel sizes	Fittings	Edging
Base unit		25/28/30mm reclaimed chipboard or MDF	2 – panels 746x346mm 2 – panels 346x721mm 2 – panels 163x725mm 1 – panel 323x700mm	52 – 8x40mm beech dowels	10150mm of ABS 33x2mm edging
Modular Hood		25/28/30mm reclaimed chipboard or MDF	2 – panels 163x350mm 2 – panels 346x350mm 1 – panel 746x346mm	16 – 8x40mm beech dowels 6 – cam locks 6 – cam dowels	

**Product 5 - Flying Carpet**

- Product designed in response to availability of an additional recycled material – Heat Treated Carpet (HTC), a solid board material produced from old polypropylene carpet.

- Product envisaged as a high-end, design led item – suitable for upscale office and domestic use.

	Dimensions	Material	Panel sizes	Fittings	Edging
Per Module		25/28/30mm reclaimed chipboard or MDF	See drawing	20 – cam locks 20 – cam dowels	2100mm of ABS 23x2mm edging
		HTC (heat treated carpet)	1 – sheet 2438x1219mm		

## Appendices

### 4-1a Concept Drawings.pdf

This document shows concept drawings for the following products:

Page 1 and 2 Cube storage system

Page 3 Home study desk

Page 4 and 5 Kiddi furniture

Page 6 and 7 BekCase

The following documents are CAD drawings of product prototypes:

### 4-1b Standard Cube.pdf

### 4-1c Home Study Desk.pdf

### 4-1d Record Cube.pdf

### 4-1e Kiddi Table.pdf

### 4-1f Kiddi Stool.pdf

### 4-1g Kiddi Chair.pdf.