Builder Beams

This new construction toy for older children is based on a series of plastic beams.

Children can use Builder Beams to make objects, buildings and vehicles large enough to sit in, on, or even ride.

The beams will have a strong cross-section to make them tough and resistant to bending.

Bump’ems

Bump’ems are a series of ride-in toy pedal vehicles for the garden.

Bump’ems will be big and curved, safe to get in and tough enough to withstand knocks, scratches and even tipping over.

They need to have enough thickness to keep their shape after lots of use.

Easy Trays

Easy Trays are easy to hold and use food trays for the elderly.

Easy Trays are shaped to provide shallow compartments for each part of a meal, sized to help elderly people ensure they eat enough protein, carbs and vegetables, and a safe place to store cutlery so it doesn’t roll off the tray.

The trays need to be light and easy to clean.

Crystal Cashmere

Crystal Cashmere is a new range of luxury hair care products made from the finest natural ingredients.

To showcase the product’s luxury status each bottle in the range will be a complex, curved shape – more like a perfume bottle than shampoo or conditioner.

The bottles need to show fine detail without any visible moulding marks.

One spoon at a time

One spoon at a time is a healthy cooking oil with a difference – a special chamber in the neck of the bottle means it comes out one spoonful at a time. It’s an easy way to control how much oil you use in your cooking.

Just squeeze the bottle until the top chamber fills, then tip to squeeze into the pan.

The main bottle needs to be cheap to produce and resist lots of gentle squeezing.

Flatpack Friends

Flatpack Friends are a new way to make assembling flat pack furniture quickly and easily.

Each one is a lightweight power screwdriver with built-in storage for screwdriver and allen key bits, and small plastic pliers for holding screws or nails in place. At the other end is a small hammer for tapping in light nails.

The Flatpack Friends case is a complex shape into which the motor, control electronics and other parts must precisely fit.
### Rotational moulding

**How it works:** Plastic granules are added to a heated mould which is then rotated to coat the inside and form a thick-walled, strong product.

**Plastics:** PVC, HDPE

**Used to make:** Balls, chairs, playground equipment, kayaks, large toys.

### Thermoforming

**How it works:** Plastic sheet is heated and formed using a press and / or vacuum to form the product.

**Plastics:** PS, PET, ABS

**Used to make:** Food trays and tubs, ‘blister’ display packs, fairly ‘flat’ products.

### Injection moulding

**How it works:** Plastic granules are melted then injected at high pressure into a hot mould to form the product.

**Plastics:** PP, PS, ABS

**Used to make:** Precision parts, toy parts, electronics cases, boxes – all with fine detail.

### Extrusion

**How it works:** Plastic granules are melted then injected at high pressure through a ‘die’ to make a continuous length of plastic with a constant cross section. This cross section is called the profile.

**Plastics:** PVC, PP, HDPE

**Used to make:** Pipes, cables, frames.

### Extrusion blow moulding

**How it works:** Plastic granules are heated and then extruded into a mould. When the plastic is the right length in the mould it is cut off and air injected to ‘blow’ it into the shape of the mould, to form the product.

**Plastics:** LDPE, HDPE, PP

**Used to make:** Low cost plastic bottles.

### Injection blow moulding

**How it works:** Plastic granules are heated and then extruded into the first mould. This creates the ‘pre form’: a completed neck with a tube of thick plastic attached. This is moved into a second mould and air injected to ‘blow’ it into the shape of the final mould, to form the product.

**Plastics:** LDPE, HDPE, PP

**Used to make:** Plastic bottles and other containers, with more complex shapes and a neater finish.