



CASE STUDY



anywayup[®]

This toddler's training cup incorporates a patented, unique valve, which only allows liquid through when the child sucks the spout, ensuring no more spills. It closes automatically when the child is not drinking, unlike many feeding cups, which seal effectively for travelling but need an older person to close them.

The special valve was invented by Mandy Haberman, mother of 3 who, having experienced the amount of mess made by small children with conventional trainer cups, saw the need for a cup which was spill proof whilst in use.

cs 3 anywayup tots cup

3 packaging and marketing

The product is marketed through many different departments of supermarkets and shops. It is hung on display hooks using minimal packaging – this is printed on a single side and folded to hold the cup and show the graphics. The customer can easily examine the cup. Trade mark (TM), Copyright © and Patent information are present on both the lid and cup suggesting a high quality product. Instructions come in the form of a circular paper leaflet found inside the cup and are very informative. The main information is about product care and the life of the lid, which may need replacing after some months of use as the valve sometimes wears out.

research

Find out how much of your weekly household waste is packaging. Have a separate box to keep it in. Draw a pie chart to show the different types of waste. Visit www.incpen.org and www.cat.org.uk to find out how much of this could be recycled.

? question

The manufacturers suggest that the reason for short valve life is that consumers have not followed the clear and precise instructions given in the product information. Discuss with others in your class how you could find out if this is true, and if it is, what could be done to improve the situation.

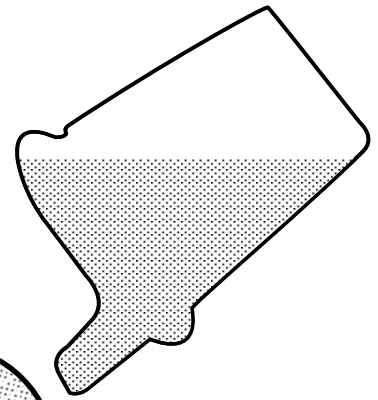
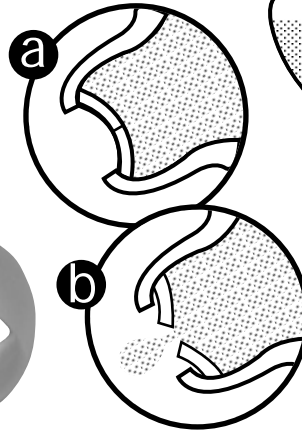


High performance is expressed through the strap line: 'The best leakproof cups in the world', and the key features of the product are highlighted on the back of the packaging, using a series of clear captions.



You can find out more about Millennium Products by visiting this Design Council website www.sharinginnovation.org.uk

anywaycup[®]



1 how it works

The spout (a) has a single large opening. Fitted beneath this is an inwardly domed membrane with a slit cut in it to form the valve.

When the child sucks, the valve inverts and the liquid flows out (b). The liquid flowing out creates a vacuum inside the cup. Once the child has stopped sucking, air pressure pushes air into the cup and the air passing through the valve pushes the valve back into the shut position. This, together with the shape of the valve (domed against the flow of liquid) makes the product reliable and totally spill proof.

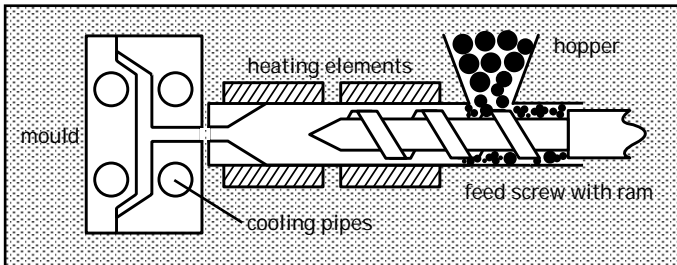
In order to prime the valve, the design of a primer button within the lid allows excess air caught in the cup to be expelled and create a partial vacuum to allow the seal to work efficiently.

? questions

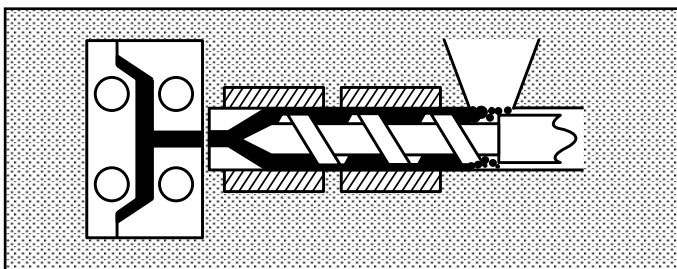
How is it possible to make a watertight seal? Draw other methods of achieving watertight seals. Add notes explaining how your methods work.



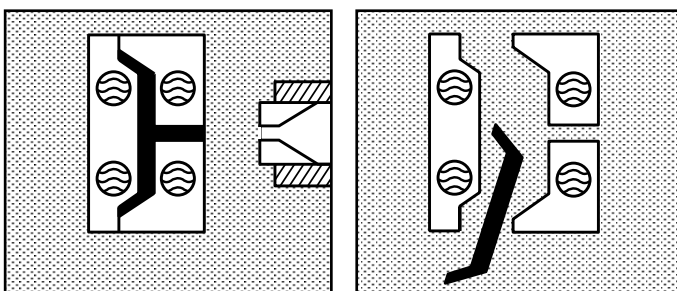
2 manufacture



Plastic granules are fed into the hopper and transported by the feed screw



Heaters melt the plastic, which is injected into the mould under pressure



Water coolers solidify the plastic, and the mould opens to eject the product

The cup is made by the injection-moulding process (see the diagrams alongside) using a 4-part mould. The valve is overmoulded into the spout. In this way a molecular bond is achieved leaving no potential for germ traps. The valve is made of Evoprene, a flexible rubbery type of plastic. In order for the valve to work reliably and the product not to leak, the lid needs a 100% airtight seal with the base. The seal has been achieved by using dissimilar materials: low density polyethylene for the lid (providing softness for depressing the primer button) and polypropylene for the cup (providing the translucency required to see how much liquid is in the cup).

Symbols moulded into the cup and lid (c) show the suitability for use with food and for recycling.

research

What are the clues to identify products that have been injection moulded?

Find out about other ways to manufacture with plastic by looking at this website:

www.pras.com/sections/plastics.asp

Make a collection of different plastics labels and draw up a chart to show their types and uses. Look at these websites for useful information: www.incpn.org or www.plastics.org