

Case study

Reusable 'Carrierpac' protects product and cuts down on packaging

Reusable packaging for kitchen worktops uses less packaging and reduces damage in transit leading to greater customer satisfaction.



Significant levels of packaging are required to deliver high value products to a customer's home without damage. Rejects increase costs, increase waste and decrease customer satisfaction.

B&Q currently delivers thousands of kitchen worktops per week, resulting in approximately 1,100 tonnes of packaging ending up in the household waste stream per year.

Kitchen worktops are an essential part of any kitchen sold by B&Q, but they require significant packaging to avoid transit damage and scuffing of the worktop corners, edges and presentation surface. The slightest dent or scratch is likely to lead to the worktop being rejected by the customer, returned to B&Q and scrapped. At a retail price of between £27 and £830 per kitchen worktop, minimising product damage is essential to avoid the wasted cost of production, distribution and disposal of damaged and unsaleable stock. During the trial there were no reports of worktop damage.

Key Facts

- Over 2 million sections of worktop are sold per annum, worth over £350 million at RSP.
- WRAP worked with B&Q, packaging consultants Outpace, packaging suppliers and third party logistics contractors to trial a multi-trip plastic package (the 'Carrierpac') for kitchen worktops.
- 500 Carrierpacs were made for the trial which involved a range of worktop specifications from B&Q.
- The most recorded trips made by a single Carrierpac was 18.
- There were no reports of damage to worktops during the trial.
- The Carrierpac increased customer satisfaction and customer service.
- If adopted for all B&Q kitchen worktops, the multi-trip packaging could reduce packaging by 1,100 tonnes per year.
- If the Carrierpac was also adopted by all other manufacturers and retailers of kitchens, 5,000 tonnes less packaging would be generated per annum.

Making it happen

The current cardboard-based transit packaging is designed to protect a worktop for just a single journey to the customer's home. Packaging consultants Outpace worked with B&Q to develop a multi-trip package that met its requirements for its range of kitchen worktops. The 'Carrierpac' is manufactured from plastic materials supplied by Storsack Dorton Ltd and Kaysersberg Plastics with approximately 45% recycled content, and is recyclable at the end of its life. Its robustness was tested during a trial that also involved two logistics contractors (TNT and Christian Salvesen).

The three specifications included in the trial represented the longest, widest and commonest types of B&Q kitchen worktops sold. All 500 Carrierpacs made for the trial were given unique numbers to allow them to be tracked for monitoring the number of uses and recording condition.

Preventing damage and reducing waste

The highest recorded number of uses of a single Carrierpac was 18 trips. No damage to worktops was reported during the trial, thereby creating no product waste from unsaleable stock. No customer complaints were received.

The trial confirmed that the Carrierpac was fit for purpose and highlighted other benefits including:

- increased customer satisfaction due to delivery of undamaged product;
- quicker to pack and un-pack;
- no bulky packaging left for customers to recycle or dispose of;
- opportunity for on-pack messaging and promotion of brand values;
- reduced risk of personal injury to packing and delivery teams due to ergonomic carrying handle;
- no need to use sharp objects to open the packaging; and
- packaging performance not affected if left outside in wet conditions.

Benefits of reusable packaging

Cost benefits:

- lower packaging costs through reduced raw material and waste disposal costs;
- reduced cost of buying Packaging Recovery Notes (PRNs) since packaging that is reused is exempt after its first use;
- reduced cost of returns and rejects; and
- reduced product damage during transit.

Consumer benefits:

- increased customer satisfaction;
- no bulky packaging waste for the customer to recycle or dispose of; and
- improved product presentation to the customer.

Company and employee benefits:

- reduced risk of personal injury to packing and delivery teams;
- improved customer service;
- improved company image; and
- marketing opportunities (e.g. branding on packaging).

Environmental benefits:

- less packaging waste entering the domestic waste stream; and
- reduced product damage thereby reducing the carbon footprint.



The average number of uses of the Carrierpacs sent out during the trial was six. Reuse rates were lower than expected mainly because Carrierpacs were lost at various points in the closed loop system, particularly in the later stages of the trial when there was less control over collecting any Carrierpacs left at customers' houses. This problem highlighted the need for effective training, awareness, monitoring and incentives to ensure effective operation of the system.

Greg Alder, packaging technologist for B&Q, said

“When worktops are home delivered to our customers, they expect the goods to be in perfect condition and are concerned with the amount of packaging for disposal. The reusable packaging tackles both these issues. Customers benefit and we benefit... that’s the bottom line”.

Commercial viability

The commercial viability of the Carrierpac is determined by variables such as the:

- relative purchase costs of single-trip packaging and the Carrierpac;
- number of reuses that can be achieved;
- loss rate of Carrierpacs per delivery cycle;
- difference in product damage rates between single-trip packaging and the Carrierpac;
- time and resources required for packing and handling using single-trip packaging versus Carrierpacs;
- cost of operating a closed loop system to track, inspect and clean Carrierpacs; and
- length of time taken for the Carrierpac to complete each distribution and return cycle.

Benefits for business

The reusable packaging prevented losses of a high value product due to in-transit damage. This increased customer satisfaction and eliminated wasted manufacturing costs, wasted shipping costs and disposal costs.

If adopted by B&Q for all kitchen worktops, Carrierpacs could reduce packaging by 1,100 tonnes per year. If the reusable packaging concept was adopted by other leading manufacturers and retailers of kitchens, the figure would be over 5,000 tonnes per year.

Moving forward

WRAP's project with B&Q proves that reusable packaging has clear business benefits for retailers making home deliveries of heavy and awkward products such as kitchen worktops. WRAP is keen to assist other manufacturers and retailers supplying kitchen worktops to replicate the success of the Carrierpac trial at B&Q.

More detail on the B&Q Carrierpac project, including a full technical report, is available from www.wrap.org/retail.

For more information, or technical advice, contact the retail team at WRAP. Tel: 01295 819686; email: retail@wrap.org.uk

The WRAP Retail Innovation team works with retailers and their supply chains to reduce the amount of packaging and food that households throw away.

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