Takeaway design adds value

Production-ready prototypes of corrugated packaging can be made in a day, according to the team at Encase. The company is using computer-aided design (CAD) software at its rapid-design test drive centre in Leeds, UK, launched on 27 February.

Specialists in corrugated board engineering, manufacturing and packaging, Encase has developed the service for customers involved in supermarket retail, white and brown goods, DIY, component manufacture, and the automotive and technology sectors.

The KASEMAKE Design Software and CAD Table turn a pack concept into 3D drawings that are presented and discussed with the client, before one or more is selected to be cut on the same day.

The system is designed to overcome bottlenecks, particularly for rapid response shelf-ready packaging, caused by the labour intensive and lengthy process of producing numerous prototypes that go back and forth for adjustments between the customer and manufacturer.

Modifications can now be made online in real time as design engineers amend the dimensions, add graphics, and select the correct and most economical grade of corrugated board. Physical samples are then produced for testing. Video conferencing allows the client's brand managers and marketing teams to view the design process remotely as it progresses.

Left: Production-ready corrugated pack prototypes based on computer-aided 3D drawings can be ready in a day. Right: Guest speaker David Barnfield of training organisation PiP Associates in Leeds, UK, talks to delegates at the launch of Encase's test drive design centre

Layer by layer

The Encase team 'work back from the shelf'. The company examines how the pack performs in terms of materials handling, storage on pallets, product load and in-store handling, so that it reaches consumers damage free. Pallet and shelf density are factored in for cost effective distribution. 'There is no point having the best design if it cannot work with pallet and materials handling systems,' says Chris Else, Encase's Business Development Manager.

Using the CAD program, the team can test functionality by filling the pack with a 3D drawing of its future contents. This allows the client to view the pack as it may look on display, which is particularly useful for designing packaging for complex components such as car radiators and engines. Previously, designers would have to wait for a product prototype to arrive to build the pack around it.

Three-dimensional animation also allows designers to place packs on virtual shelves, pallets and merchandising units for a complete picture of the product's movement through the supply chain.

Encase plans to establish test drive centres at its other sites in Banbury and East Kilbride.

For further information, visit www.encase.co.uk.

Rupal Mehta

PRESCRIPTIVE PACKAGING

Corrugated board comprises three layers – an outer and inner liner and the flute in between. The flute refers to the inner crinkled part. B, C, E, F and N are all common examples representing different thicknesses. A double-wall board has two flutes. Selecting the correct grade and combination of materials for these layers is vital for customising load-bearing and durable packaging, explains Chris Else, Business Development Manager at Encase.

The computer-aided design software used at the company's test drive design centre (see above) allows designers to simulate packs made from a range of grades, testing them theoretically with temperature and humidity variables.

Encase replicates the dimensions of shelves in a range of UK supermarkets to display their prototype packs

Else says, 'There are hundreds of thousands of grade combinations because there are so many paper combinations. Designers initially over specify the grade and flute to compensate for a safety factor. But if you take the grade down, the pack becomes cheaper to manufacture, which is important. So designers will try this and play with different combinations'.

Once physical samples have been produced, burst and compression strength tests are undertaken to confirm durability, as well as openability and user friendliness. Encase replicates the end market/environment for the pack, such as by mimicking supermarket shelves (see image left), to create a complete concept for the client.

NEW GRADES AND EQUIPMENT

■ Encase has launched a range of EcoWall corrugated board substrates suitable for automotive, and heavy and delicate component packers, as well as corrugated board pallets. The heavy duty materials are lightweight, fully recyclable and may replace wooden packaging in some applications, says the company. The range includes the double-wall BM, EC and BB flute grades (see box left), as well as the novel single-wall M flute. Encase claims the latter's slimline profile saves 50% in space compared to a double wall, and consumes 50% less energy.

■ To complement Encase's rapid-design test drive centre (see above), the company has installed a Duran Bella 170 multi-point gluer at its Banbury plant. 'Demand for quick erect boxes has never been greater,' says Marketing Manager Mike Hartley. The machinary enables straight-line, crash-lock, four and six-point glued boxes to be produced, and features motorised carriers and servo back-folding.