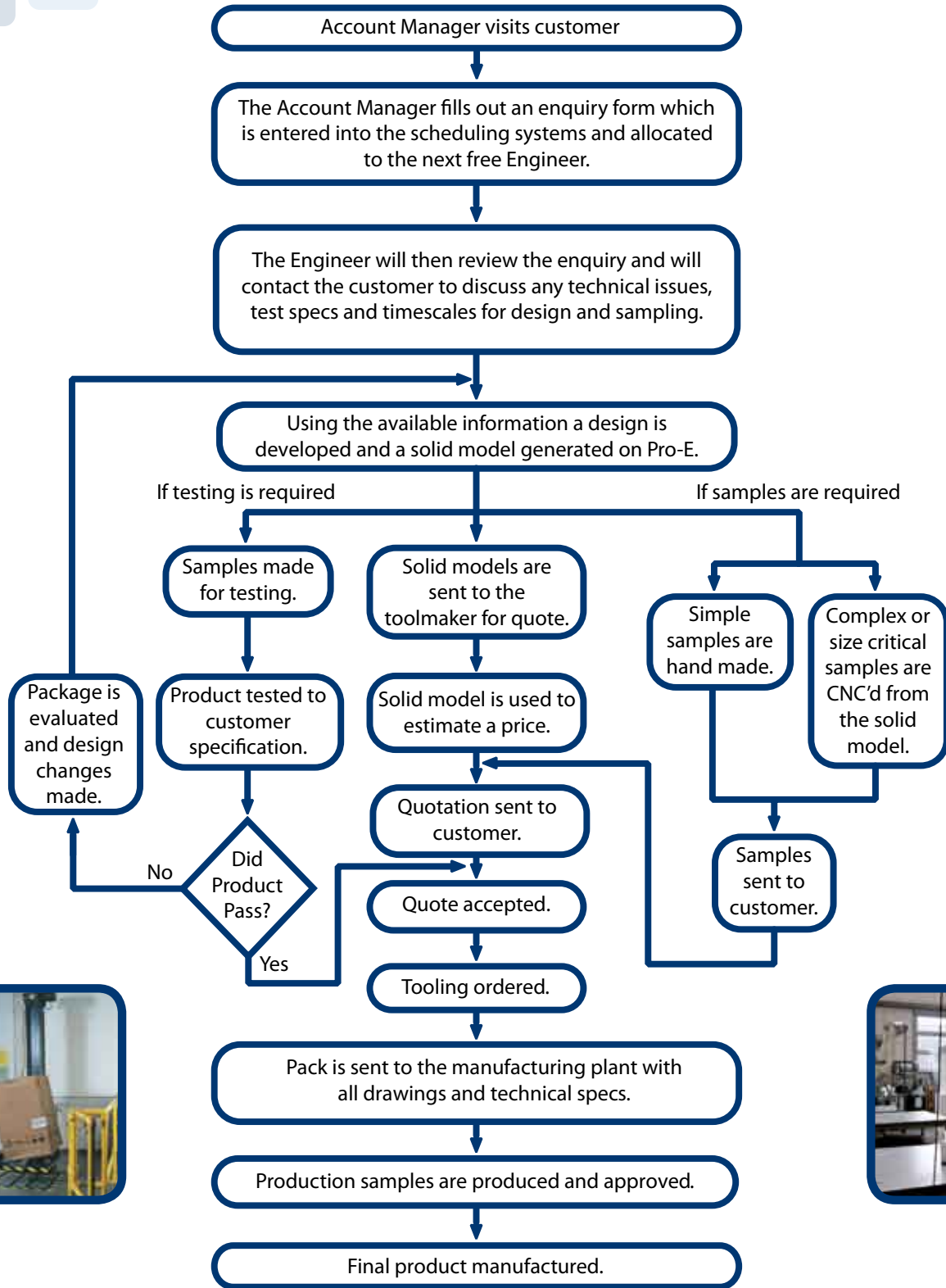


SCA Foam Products Design Process Guide



Masterminding the vision...
Challenging convention...
Engineering the change.

Design Process Chart



Thank you for choosing SCA Foam Products as your packaging solutions partner. This design process guide provides ease of communication and instructs you through each stage of your enquiry from design to manufacture.

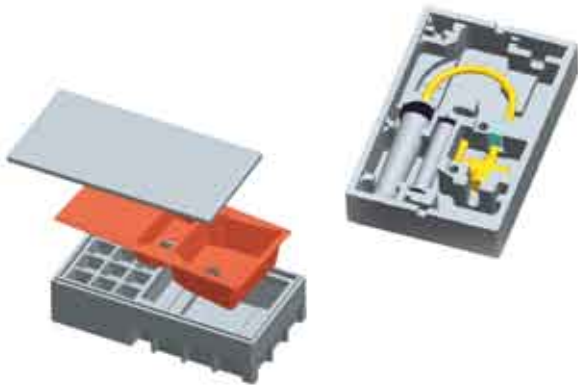
Please retain this document for future reference for all packaging enquiries.

Technical Centre

SCA Foam Products, part of SCA Packaging, is a premier supplier of custom designed foam products, materials handling systems and speciality components, serving the needs of many of the world's largest manufacturing companies.

Our capabilities and equipment at our technical centre located in Northampton are second to none. We are proud of our facilities but even more outstanding is our award winning technical design team.

SCA Foam Products design team's individual talents are drawn from their engineering and CAD design backgrounds. Their skills cover many disciplines; engineering, graphics design, tooling, pattern making and sampling coupled with an extensive knowledge of materials.



These combined skills create a dynamic problem solving team whose innovative new concepts and ideas radically improve on a products' protection, whilst also satisfying client requirements to save cost and improve efficiency - logistical issues of delivery, assembly, storage and despatch are addressed as a matter of course. The state of the art technical centre in Northampton has the latest CAD design technology. Working with 7 networked Pro Engineer CAD stations the design team are leading the way with innovative packaging solutions.

High quality precision prototypes are produced directly from CAD data using the latest technology in CNC machinery. Our 3 computer controlled machines have multi tool change capabilities to speed sample production and efficiency. These powerful machines cut low to high densities of expanded foam to produce accurate samples for fit and evaluation. Hot wire cutting is also used where the dimensional tolerances are not super critical.



SCA Foam Products has the capability to simulate transit conditions and evaluate physical and mechanical handling in the distribution environment to determine the effectiveness of the cushioning, durability and other critical design attributes of the pack.

All testing is done in house therefore data is available



immediately.

Testing Facilities

Multiple Type Drop Testing

The “heavyweight” drop tester accommodates large products such as home appliances, televisions and computer equipment ensuring simulation of true freefall drops. Transient acceleration signals are displayed on the system monitor and the computer analyses the results.

The “lightweight” model tests smaller lighter packages that are generally handled manually.

‘Real Life’ Handling Test

Warehouse damage is dramatically reduced by our ability to recommend the correct materials and density suitable for clamp truck and manual handling. Using a calibrated clamp truck for ‘real life’ trials we measure pressure/ deflection - vital information required to design protection for the vulnerable sides of large products.

Transport Simulator

Our transport simulator imitates the movement and vibration a product would be subjected to whilst being transported on a vehicle. This covers all road conditions and journey lengths. The pack moves freely on the simulator and all faces of the package are tested, facilitating an accurate test for mixed loads.

Inclined Plane

The inclined plane simulates sudden arrest - such as a rail car shunting or a vehicle stopping rapidly. A test often required for the white goods industry and where products are stacked together on a pallet.

The individual talents and collective experience of SCA Foam Products design team, backed by state of the art testing facilities, always leads to exciting new packaging solutions.



Design Team

Andrew Wilders

Tech Centre Manager

Tel: + 44 (0) 1604 596810

Mob: + 44 (0) 7801 860523

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Andrew has been in the EPS industry for some 31 years, starting as an apprentice for a packaging company in London. He has been with SCA Foam Products for 28 years and has progressed through the company to become head of the Technical Centre. Andrew's wealth of knowledge and experience, in both design and production of expanded foam products, is second to none.

Interesting Fact: Andrew is a qualified Scuba Diver to master level.

Jim Woodard

Project Engineer

Tel: + 44 (0) 1604 596814

Mob: + 44 (0) 7971 192920

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Jim has been with the company for 13 years. During this time, Jim has gained vast experience in design and testing of expanded foams, and has exceptional knowledge of fabricated foam applications. He is also part of our Health & Safety team and oversees the safety of the technical centre staff.

Interesting Fact: Jim is a very keen sailor and dreams of owning his own yacht.

Peter Davies

Project Engineer

Tel: + 44 (0) 1604 596812

Mob: + 44 (0) 7971 192938

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Peter started his career as an apprentice Toolmaker. He then worked as a pattern maker before joining SCA Foam Products over 24 years ago. Peter has excelled in packaging design, winning many awards on behalf of the company.

Interesting Fact: Peter collects medieval fantasy dragon sculptures, figures and images.

Auch Demeter

Project Engineer

Tel: + 44 (0) 1604 596811

Mob: + 44 (0) 7971 192922

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BSc.(Hons) AMIMech E

Auch joined the company 7 years ago. He has gained enviable qualifications - FTC, HND, First Class Honours Degree and is currently studying for a Masters Degree in Automotive Engineering. Auch's engineering background and passion for learning makes him a strong asset to the design team.

Interesting Fact: Auch once held the British Weightlifting/Power Lifting championship

Ben Fisher

Project Engineer

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Mob: + 44 (0) 7725 955965

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Ben joined the company three years ago and is our youngest team member. He has a BTEC in mechanical engineering and hopes to also achieve HNC qualification next year.

Interesting Fact: Ben is an enthusiastic Rugby player and often sports a black eye!

James Brown

Project Engineer

Tel: + 44 (0) 1604 596829

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As our newest member of the team James recently gained a BSc (Hons) degree in Product Design at the Nottingham Trent University. He is now looking forward to getting his teeth into designing and developing his knowledge.

Interesting Fact: James is enthusiastic about computers and has been building them for over 10 years.

Sarah Eady

Tech Centre Administrator

Tel: + 44 (0) 1604 596828

Mob: + 44 (0) 7971 192545

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Sarah has been with the company for thirteen years. As well as overseeing the administration, Sarah is the key information link between the technical centre and the manufacturing plants

Interesting Fact: Sarah enjoys a variety of sports including pilates, badminton and squash.



Awards

Institute Of Packaging Awards

Gold

Working with Rangemaster

Silver

Working with: Rockwood Electronics / B.O.S. Automotive /
Merloni / Elettrodomestici UK / Dyson Ltd / Rangemaster /
Electrolux Ltd / Epson Telford Ltd / Betacorque

Bronze

Working with: Indesit Company UK / SCA Tuscarora / Armour
Plastics / Carron Phoenix / Merloni Elettrodomestici UK / Valor
Heating Ltd / KEF Audio (UK) Ltd / Hornby Hobbies Ltd



World Packaging Organisation

Worldstar Award

Working with: Rangemaster / Betacorque / Dyson Ltd / Epson
Telford Ltd / Electrolux Ltd



Packaging Industry Awards

Environmental Responsiveness Transit Award

Working with Electrolux Ltd

JPC Award for Design & Development

Packaging Innovation Award

Working with Abbot PVC-U





Frequently Asked Questions

Q Do you charge for samples?

A We will produce up to 1 sample per design free of charge but higher quantities may incur a charge.

Q Is the quoted run quantity the amount I have to order?

A Yes, but we can renegotiate the prices for alternative quantities.

Q Have I any options of payment for the tool?

A Our payment terms are 50% with order and 50% on approval of the tool. For further options please contact your Account Manager.

Q Why does mould tooling take so long?

A We work to standard industry lead times. Tool making is unfortunately a long process. Either patterns are produced which are sent to a foundry for casting then returned to the toolmaker for finishing or the tool is CNC'd from a solid block of aluminium. The more cavities a tool has, the longer the process takes.

Q Who owns and maintains the tool?

A Following final payment you will own the tool and therefore will be responsible for maintenance and insurance.

Q Can I have my name and/or part numbers on my mouldings?

A Yes we can add plates into the tool.

Q Can I request a modification to the tooling after completion?

A Yes, but a charge will be incurred.

Q What are your production lead times?

A When your tool delivery date is confirmed, the manufacturing plant's customer services co-ordinator will contact you to agree dates for the first off sample approval and full production.

Q What are your quality procedures?

A We have implemented and operate under the following quality procedures:-

ISO 9001 - Northampton Technical Centre

Plants

ISO/TS16949 - Northampton & Spennymoor

ISO 9001 - Livingston & Torpoint

Q Is expanded foam recyclable?

A Yes, there are several recycling options including:-

- 1) Dose back into virgin bead material
- 2) Recycle into plastic products such as video & CD cases, coat hangers and plant pots.
- 3) Compact and extrude into a hardwood substitute to produce new products such as garden furniture, window & picture frames.

Your Account Manager or a member of the Technical Design Team would be pleased to answer any other questions that may arise.

SCA provides essential products that improve the quality of everyday life.

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