



Confederation of Indian Industry

DESIGN CASE STUDIES

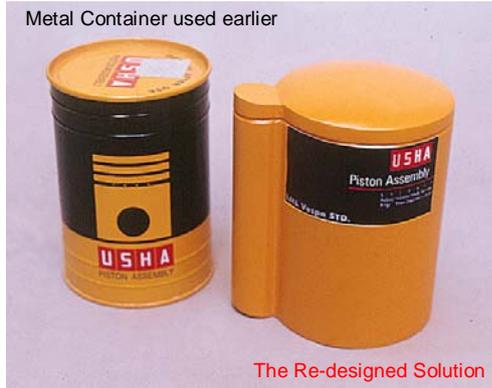
	<h1>Shriram Pistons</h1> <p>Shriram Pistons and Rings Limited</p>
	<p>Packaging design for one of India's largest integrated manufacturers of Pistons, Piston Rings and Engine Valves</p>
OVERVIEW	
<p><i>Introduction</i></p>	<p>Shriram Pistons & Rings Limited manufactures engine components, like valves, pistons and piston rings. The company is an OE supplier to various vehicle and power-generator manufacturers and has a strong retail presence for after market and spare part replacements. Their retail sales were suffering from a surfeit of low quality counterfeit products, resulting in loss of revenue and goodwill. The company was looking at innovative ways to tackle the problem.</p>
<p><i>Key elements of Shriram Piston's design strategy</i></p>	<p>After a quick reconnaissance of the markets - observing and interviewing wholesalers, retailers and workshops - it became apparent that the company was leveraging the strong goodwill the 'Usha' brand carried. However, this goodwill was getting eroded by competitors and counterfeiters.</p> <p>It was important to deter both, by reinforcing the brand in the market, through a comprehensive repackaging exercise. The pack had to be unique in shape, branded prominently and be difficult to re-use or copy.</p>
<p><i>Innovation</i></p>	<p>The design strategy was to change the piston package such that it becomes tamper-proof, impossible to reuse / reseal and have a unique shape with features that reinforce brand recall. Technologies such as ultrasonic plastic welding, pad-printing and high-end co-injection moulding were employed to achieve a compelling blend of new features while retaining a high entry-barrier for potential counterfeiters.</p>

<p><i>Meet the team</i></p>	<p>Shriram Piston's management evaluated Incubis' past projects and capabilities before commissioning the team.</p> <p>Incubis, is one of India's leading multi-disciplinary architecture and design firms, with several Fortune 500 multinationals, small and medium enterprises as well as start-ups, as clients. Incubis' client list includes Whirlpool, WPP, Unilever, the Tata Group, Singer, Samsung, Nokia, Mahindra, MRPL, Hero Honda, Hilton Hotels, GE, Essar, Emaar MGF, Bridgestone Tyres, Bharti Wal Mart, BPCL and Barista.</p> <p>Incubis' clients value the unique 'Experience Design' process which brings together customer insight, local knowledge and innovative zeal to create a wide range of products, spaces and service offerings.</p> <p>Incubis was founded in 1995 by graduates of NID, IIT and TVB and has grown to a team of over 55 Architects, Designers and Engineers based out of studios in New Delhi and Bangalore.</p>
<p><i>Company's history</i></p>	<p>Shriram Pistons and Rings Limited is part of the Shriram Group, one of the largest and most reputed industrial houses in India.</p> <p>Established in 1972, with a factory in Ghaziabad, the organization has evolved into a centre of excellence, employing over 2,500 employees and achieving an annual turnover of approximately Rs.400 crores.</p>
<p>EVOLUTION OF DESIGN AT SHRIRAM PISTONS</p>	
<p><i>Design process evolution</i></p>	<p>The design exercise began with 'looking-at and listening-to' users. Thereafter, a decision was taken to completely change the package in terms of materials of construction and process so as to achieve maximum differentiation and point of sale visibility. The dimensions of the pack were rationalized and various formal explorations were carried out before approval. Thereafter, detailed drawings were made for implementation.</p>
<p><i>Organizational position & influence of design at Shriram Pistons</i></p>	<p>At Shriram Pistons, one of the core purposes is to foster individual initiative and creativity. This clearly-defined corporate belief has given design a high degree of prominence in its corporate affairs. All design ideas were presented directly to the top management and decisions given expeditiously.</p>
<p><i>Design capability building</i></p>	<p>Incubis was primarily brought on board for its ability to analyse market needs and capability to innovate within a structured framework.</p>
<p><i>Market</i></p>	<p>Shriram Pistons has emerged as one of the country's largest integrated manufacturers of pistons, piston rings and engine valves. It has a presence in both the OE and after market. The company's products are marketed under the brand names 'Usha' and 'SPR'.</p>
<p><i>Status</i></p>	<p>The 'Usha' brand evokes excellent recall and goodwill in the market and Shriram Pistons enjoys pole position in this category.</p>

THE DESIGN PROCESS	
	<p>The design process followed at Incubis for the Shriram Pistons project was structured as follows:</p> <ul style="list-style-type: none"> >Understanding the market situation; speaking to various stakeholders – the company, wholesalers, dealers, mechanics, customers; studying the products and the packaging process >Analysing the present market situation and evolving a strategy that would significantly alter the same to provide enhanced competitive advantages >Creating ideas that are aligned towards the strategy , both as drawings and models >Using the management’s experience as a sounding board to evaluate all ideas and narrow down the choices to the most viable one >Constantly evaluating the short-listed ideas within a cost-benefit framework and reduced time-to-market >Selecting the appropriate solution, including process and materials, and creating detailed drawings for tooling.
SHRIRAM PISTONS CASE STUDY	
<i>The business requirement</i>	<p>The OE market was growing at a steady rate, thanks to concentrated marketing efforts with various manufacturing industries. The ‘After – Market’ was a completely different ball game. Customers in need of spare parts either bought directly from the mechanic or bought it themselves from local shops. All companies had similar metal container packs with very little to differentiate except brand name and cost. Customers found it impossible to detect counterfeits, with estimates of almost 40 per cent of goods sold being fakes.</p>

Discover

Metal Container used earlier



Field visits to various wholesalers, retailers and workshops resulted in valuable insights:

>All containers were of sheet metal construction, which cannot be easily opened and takes time and effort.

>Mechanics complained of injuries sustained from sharp edges formed while opening metal cans, with the metal tabs tending to break off.

>There was a possibility of damaging the rings when opened by inexperienced hands.

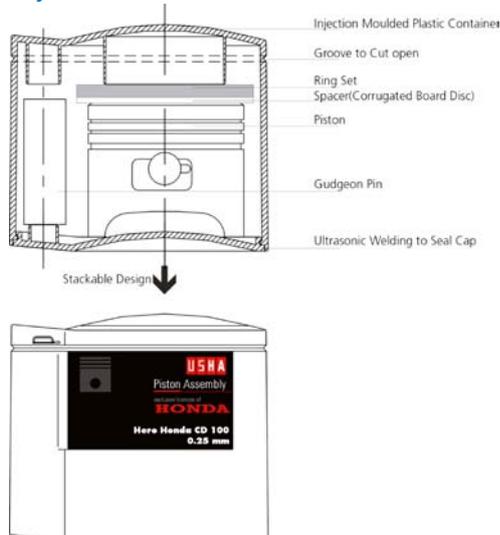
>At retail counters, the containers needed to be stacked at least 2 or 3 high. It was a delicate balancing act, since they rested rim-on-rim. It was not an uncommon incident when entire displays cascaded down while one was being picked out.

>Most containers had dents, smashed rims and scratched paint, making them look shabby. This mainly happened due to rough-handling during transport.

>The labels had all the product information printed in small type, so were not visible from a distance. The labels sometimes peeled off or got scratched in transit, making it impossible to determine the contents without opening the pack.

>Each piston-type had a unique pack size, resulting in a large inventory.

Define



The following design features were developed to discourage counterfeiting:

>The material of the pack was changed from metal to engineering-plastic. The packs were to be Injection moulded in ABS (Acrylonitrile Butadiene Styrene).

>The snap-fit Cap, located in the bottom, was sealed using Ultrasonic welding.

>A weak section was provided near the top, which can be easily cut open, but is impossible to reseal. The opening process is safe – with no damage to contents or workers' hands.

>The shape is unique - like a figure of "8", enabling close packing – yet difficult to replicate since it involves die sinking. Cylindrical shapes have a lesser barrier to replication.

>A co-injection moulded (two-colour) USHA logo on top of the container

>Pad printed graphics. Area for package graphics are in a recess, so no other surface can rub against it. Colour coding containers for indicating vehicle model and ring size was suggested as an option.



Additional features incorporated into the design :

>Rationalising pack sizes down to two, with a common cap for both

>Stackable Design for ease of storage and effective Display value

>Plastic casing master-batch same as 'Usha yellow', ensuring brand recall and quality assurance.

>Reduced number of steps during packing

> Lower unit cost due to process and volume combination employed

<i>Deliver</i>	The final design was developed for implementation through detailed technical drawings and models. The graphics on the pack were also developed for implementation.
EVALUATION	The unique pack changed the retail market overnight and immediately reinforced the “Usha” brand values that customers associate with – that of trust, assured quality and reliability. This new design helped the company retain its leadership and kept counterfeiters at bay.
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