

## **Chapter 2**

### **Literature Survey**

#### **2.1 INTRODUCTION**

Molding is a process where the fabric is stretched to a pre-determined shape and subjected to heat and pressure for a given time. The pressure, heat and time can be varied according to the fiber combination, the weight of fabric, the degree of stretch and modulus in the fabric and the size of mould being tested.

By mixing of fibers a particular fabric can be made and its performance after being molded. The stretch of the fabric is a key element in molding. The extent of stretch will determine the success of the Mould. The modulus of the fiber, the type of spinning of yarn, the process of fabric production creates a wide range of variables that affect the optimal condition of heat, pressure and time required.

Based on the above variables that are in constant consideration to optimize the time on sampling and consistency of Bulk production. Below literature will be enhancing to extent beyond the objective of the research.

#### **2.2 Related Literature**

Now days there is a high market demand on seamless or mould bras. Fashion industry also given best priority for molded bra designs. But bra cup molding industry is not so popular & located in few arias around the world. Germany is the more popular country for make Molding machines, Molds & mold related developments. Hong –Kong & China molding industry rapidly growing with end of the multi fiber agreement.

Few bra molding plants located at Sri Lanka & majority of them belong to MAS holding. MAS Bodyline , MAS Unichela ,MAS Design Center & Siluata having state of art in- house bra molding facilities. My project works carry out using MAS Desing Center molding facilities.

Information related to bra molding industry is very limited & available information also not published & confidence due to high level of industry competition to save their business. Due to lack of information & confidence of the available sources id very limited study & research on bra molding aria. So most cases different plant is used different technology & systems for same job.

Most cases molding unites haven't proper way to record their readings & even though they have some kind of recording method it is not useful for analysis in –order to get proper feedback on the molding conditions against various profiles.

Also world textile industry growing rapidly & everyday lot of new products being came to the market. So variation on the fabric materials is huge & difficult to find a standard way for molding.

As mention on chapter one this is small effect to standardized molding conditions & prepares a database for molding information's. Project objective is using this information to do mold trial right first time & save time & reduce wastages.

Bellow is little research information on this topic

### 2.2.1 Story of the Bra

The first bra was created in 1914 by a New York debutante preparing for a dance. With the help of a maid, she strung two handkerchiefs together with pink ribbon and fitted herself with the first bra. Since then, the bra has evolved as women and their self-perceptions have changed.

During the late 1940's and early 1950's, women in the U.S. primarily stayed at home to focus on raising the children. Well-rounded figures were popular, and fashion focused on the traditional hourglass female shape personified by Marilyn Monroe and Jane Mansfield. Frederick's of Hollywood, a specialty retail operating chain of women's intimate apparel throughout the U.S., introduced the first push-up bra, the Rising Sun, in 1948. Push-up bras use wire and fabric filling to support and lift up women's breasts. At this time, "torpedo" bras, such as Maiden form's Bullet Bra, made each breast look like a projectile about to be launched.

During the next decade, the thinner "waif" look became popular as illustrated in the ascent of the model Twiggy. As the feminist movement developed, women were proclaiming their freedom from traditional roles and constraints set by a male-dominated society. Many young women sought a more comfortable bra or choose not to wear a bra at all. Bra burning was seen as a way of demonstrating this new freedom. In response, manufacturers made bras as unobtrusive and discreet as possible, such as Warner's 1969 Invisible Bra.

Women infiltrated the workforce in mass numbers during the late 1970's, and by the early 1980's, women were beginning to climb the corporate ladder. During these decades, male-influenced clothing (e.g., shoulder pads and pinstriped suits) were seen throughout the office, while femininity and sensuality kept a low profile in the fashion industry.

Towards the latter 1980's and into the 1990's, women were comfortable for the first time with not only their professional success, but their sexuality as well. This brought on changes in fashion. There was a return to sensual and feminine clothing, and awareness for lingerie became heightened. Cultural icons such as pop-star Madonna were largely credited with the popularity of structured lingerie. High-powered designers, such as Jean Paul-Gaultier, incorporated such themes into their newest designs. Full-figured models and images of cleavage began to dominate fashion magazines, newspaper advertisements, movies, and television. "There is definitely a breast fixation going on in fashion today," says David

Wolfe, creative director of The Doneger Group. Spurred by the increasing fear over the dangers of silicon breast implants, push-up bras experienced a revival and grew to multi-million sales figures. The movement to sensuality was highlighted in 1994 with "one of the most heralded episodes in underwear history: the invasion of the Wonderbra."

### **2.2.2 Wonderbra**

The Wonderbra was created in 1964 by Louise Poirier for Canadelle, a Canadian lingerie company. Since its creation, the basic design and construction of the Wonderbra – and its intended effect – have remained the same. The Wonderbra has 54 design elements that succeed in lifting and supporting the bust line while creating a deep plunge and push-together effect. The unique bra helps even the slightest of figures take on a fuller form. The Wonderbra uses less padding than other bras, yet through precision engineering, it lifts and supports the bust line and gives a more natural projection while not compressing the breasts. *Exhibit 3* describes the design elements of the Wonderbra.

### **2.2.3 Lingerie & Beauty**

We sell more lingerie than any other UK retailer. However, in recent seasons, we lost sight of what our customers want: fashion, glamour, prettiness and comfort. Additionally, customers want to be able to find their favorite items easily. Some important product areas such as smooth bras and high leg knickers were missing from the range. Some prices were also uncompetitive.

As a result, our market share slipped 1.2% to 25.4% in a growing market.

To create a clearer offer, providing real choice without proliferation, we have moved from nine to four collections – Ceriso, Truly You, Adored and Body – and reduced the number of lines by around 17%.

We have made bras, knickers, hosiery and nightwear easier to shop and improved availability of important items like boxed bras and knicker sets. We have also extended some ranges, introducing a larger range of DD–G bra sizes and an expanded pyjama and nightgown offer.

We continue to innovate: last year, the Magic Knicker, which combines unique zoned fabrics to provide shape and support, proved popular. This and other products demonstrate our design leadership.

Once again, price has been key. We are now very competitive at opening price points and offer outstanding value across the ranges.

In Beauty, we had success with our branded cosmetics such as Autograph and the launch of the per una cosmetics and fragrance range. However, the rest of our range has become tired and we need to refresh and simplify our offer in order to attract regular as well as occasional

shoppers, who visit at key times like Christmas. We are reducing the number of ranges from 32 to 23 and aim to renew three quarters of the products by the end of 2005/06.

Donald J. Franceschini, Vice Chairman at Sara Lee Corporation, sat in his Chicago office and looked out his window onto the Chicago River. On his desk sat an old *Investor's Business Daily* with the headline, "Executive Update, Sara Lee Tries to Extend the Wonderbra Franchise." He reflected on the days when the Wonderbra was arguably the most talked about product in the fashion world. A major topic in every major city's newspaper upon its launch, the Wonderbra increased the company's intimate apparel division sales by 14% in 1994. In the 1990's, Sara Lee significantly increased its presence in the intimate apparel market beginning in 1991 with the acquisition of Playtex to complement its strong share in related products. Sara Lee's sales for fiscal year ended June 28, 1997 indicated strong overall growth, but only 1% growth in the sales of personal products. *Exhibits 1-2* highlight key financial information for Sara Lee. According to Value Line's most recent projections, growth is expected for all of Sara Lee's divisions, including baked goods and household products, but the personal product's division sales, which constitute 38% of Sara Lee's sales and 40% of profits, are to remain flat. Don Franceschini sat there for ideas to rejuvenate the Wonderbra product line and restore the growth attained back in 1994.

Introduced to the American public in May 1994, the Wonderbra, with a suggested retail price of \$26, began selling at a rate of one every 15 seconds, and stores could not keep the bras on their racks. First year sales for the Wonderbra were approximated at \$120 million, making it one of Sara Lee's top 30 selling products. Women lined up outside store doors in order to buy the coveted bra, and by year's end, the Wonderbra had grown from a mere lingerie item into a "vital fashion accessory and cultural icon." The Council of Fashion Designers of America (CFDA) honored Wonderbra "for creating a phenomenon never before experienced in the industry." Ethel Klein, president of EDK Associates, a New York-based marketing firm specializing in women's fashion, stated, "Wonderbra has become sort of like Kleenex, in that it's the product name that defines the category. It's the brand name associated with the product." John Dixey, the British managing director of Playtex (division of Sara Lee and marketer of the Wonderbra), commented, "the Wonderbra has made it into the Collin's Dictionary. It has become an icon which is just as powerful as Levi's jeans." By the end of 1994, the Wonderbra was named one of Fortune's products of the year and was recognized by several other magazines including Advertising Age and U.S. News and World Report.