



## Female Accessories Industry: A Case Study of Rubber Use

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### Abstract

The success in sale of accessories depends on economics. However, the main problem of accessories industry is that it mostly relies on precious stone and metal which are limited natural materials. Thus, the costly selling price results in low sale performance. Most people prefer inexpensive accessories made of other materials with beautiful design. This contributes another channel for accessories industry with rubber instead of other natural materials and it results in lower selling price of female accessories as well.

The researcher develops evaluation form for analyzing and designing these kinds of female accessories with rubber use through documents and field study by questionnaire and document report. The results reveal that the patterns are mostly used include graphic, natural and cultural pattern, respectively, which are sufficient to be used as female accessories. In case of the appropriateness of its design with rubber, the researcher selects rubber as material because it is flexible and durable from heat and sunlight. The piece made and the technique mostly used include molding, joining, embedding, ring affixing, design engraving, gluing, inner hollow, and sand-spraying respectively. Molding and gluing technique used in order to stick rubber with silver are most popular used whereas the least one is mixing into one piece of accessory work. The researcher uses curve ring as a joint making gentle because this kind of technique is a curving graphic resulting in comfortable, changing and flowing condition which is harmonized to direction change and neutral feeling and could be mixed with any other designs. The analysis finds that accessory design is in accordance with piece mixing and technique. When these are brought together with various shapes, such as graphic, natural, and cultural pattern, they can be in accordance with accessory making. Then the prototypes are developed and adjusted through survey of females aged 25–30 years old and 25 accessory pieces are selected by experts. Thus, the accessories made of rubber should start with studying information of rubber's property and kind of accessory, including evaluation and problem solving during theory and practice study in order to design the accessories made of rubber with beautiful and innovative look.

**Keywords:** Jewelry, Rubber, Jewelry Industry, Soldering, The investment-like production.

### Introduction

In the past, people know how to use jewelry as the decoration by using gems, beads and precious colored-stones. They begin to use bone, feather, leather, shells, rubber, wood and various materials from the nature that can be easily found in local clothing. It represents a

different tradition in the various human races due to various cultures' form, people's beliefs and popularity from different period of time. When people gather in a larger society forming the collective rules, they also begin to create the different characteristics as in the group with a variety of methods. The evolution of technology

rapidly brought about the various precious metals together with gems and jewelry stones to be used instead of natural materials found locally. In ancient times, jewelry is what indicates the titled aristocracy and high positions of the wearers. In the past, only the king and the aristocracy have the rights to use and wear gold while ordinary civilian could afford only silver and copper alloy. Nowadays, the purpose of wearing jewelry is different from the past. The users mostly aim to decorate their bodies for their beauty and to represent their wealth when used expensive jewelry. Jewelry can also indicate economic status very well by noticing the wearer with the large pieces of jewelry decorated with precious stones who emphasizes on its function as a secondary. Thai jewelry industry made from gems and precious metals has been highly developed and upgraded. In the time of the better economic status, the better jewelry sale occurs. However, the major problems of the industry of gems and jewelry made from precious metals as well as the future problems are due to the limited natural materials resulting in the higher price of jewelry and the sales volume would be decreased because of the fear of robbery. Constantly, the buyers do not tend to use expensive jewelry but turn to the jewelry made of other materials designed to focus on the beauty with the price they could afford. There is another channel for the jewelry industry for women to use natural materials such as natural rubber to make jewelry instead of any other types. The rubber contains elasticity and resistance for the heat and sunlight. This good feature selection is used to help reduce production cost of the women's jewelry. In addition, rubber is the country's major industrial crop with the export revenue at least billion Baht per year. In 2008 with the plant area of 15.349 million acres, Thailand export rubber products not less than 20,000 million Baht per year. [1] It has

eventually made Thailand become the world's number one of the natural rubber producer. The geography of Thailand is suitable for rubber cultivation plus the wage is not too high. Thai government realizes the importance of the rubber plantation as well as many concerned organizations to be assigned to take care of it, for example, The Rubber Research Institute, Department of Agriculture (which is the critical care unit of rubber research and marketing), Rubber Estate Organization (REO) and Office of the Rubber Replanting Aid Fund (ORRAF), etc. Today, rubber is the second best agricultural export product from rice. It's one of the important products to everyone's daily life routine. Thailand has generally produced various rubber products since the World War period. There are now rubber products for both domestic use and for export. There are also various types of products from the uncomplicated process one to the required technical one and the one with complex steps. Additionally the genuine jewelry industry has been classified as the outstanding industry for the country's economic which brings the large revenue to the country at the amount of several billion Baht per year, represented up to 38% of the total export of gems and jewelry. [2] This has led to the employment and development of various industries such as body design and assembly production, equipment production, stone cutting machine and packaging as the main income from jewelry export. However, nowadays, jewelry export is now facing the more intense competition as seen that the entrepreneurs must accelerate and adapt Thai jewelry to meet with the economic competition. Our situation in Thailand Genuine Jewelry Export 2007 – 2009, shows that the export value has been decreased from the same period. Due to the competition from the rivals like China and India, they are able to export products at lower cost because of

their lower labor wage. In this case, Thai entrepreneurs should focus more on developing product quality and adding value with creative ideas, not the same contract manufacturers as previously. Therefore, the idea of using rubber plays important role to the economy to adjust a semi-valuable jewelry design to develop our economy including forming our own brands more seriously. The factors that will lead Thai brands to the world class must contain good skill designers, a unique Thai identification and/or an original design and format which differ from foreign competitors, and also the government and business owners need to realize and understand the concept of marketing and branding seriously. It's not recommended to imitate the trends or fashion in order to see Thai gems and jewelry industry, as a whole picture, to be more accepted in the sustainable future and towards the development to become the world fashion center at last.

### Aims

To study the rubber industry in order to develop the jewelry industry for women

### Research Methods

1. The evaluation of the patterns of jewelry industry for women Population and sample group specification

#### Population

Populations participated in this research are jewelries from the company of. ERA Design.co.th.

#### Sample Group

5 types of women's jewelries: rings, pins, bracelets, necklaces and earrings.

#### Data collection

Collecting data from jewelries and evaluation forms

- 5 types of women's jewelries: rings, pins, bracelets, necklaces and earrings.

- The evaluation form from the experts of jewelry design as following:

#### The academician

- **Assistant Professor Wannarat Tungcharoen** Visual Design Academic, Major: Jewelry Art, Faculty of Fine and Applied Arts, Srinakharinwirot University Entrepreneur in jewelry manufacturing

- **Mr. Ronnarong Khunkaew** The expert in jewelry production, Private Company and the expert in Scientific and Technology

- **Dr. Chudetch Deeprasertkul** The expert in rubber technology, Mahidol University

2. The trial in rubber manufacturing

Five parts of the experimental parts: rings, pins, bracelets, necklaces and earrings.

Collect and analyze the data of the test number 1 evaluated by the experts and develop and analyze for the second time of design and draft the jewelry industry for women by using rubber industry from the field of data collected from questionnaires to be analyzed and to record the data from the systematic evaluation form. The research objectives and issues are:

- The structure, shape, and thickness of the jewelry

- The appropriate jewelry design industry for women using the rubber

- The technique and assembly of work

Evaluate and discuss the draft in-depth interview with the President and Director. To choose draft set of criteria and develop the design and modification through evaluation comments from the Chairman and Director.

Make a model of the jewelry industry for women using the rubber (that passed the summary of evaluation comments by an updated and correct development).

3. Data organization and data analysis

Analyze 5 patterns of jewelries: rings, pins, bracelets, necklaces and earrings from the company named ERA.Design.co.th, Bangkok

Trial in the rubber manufacturing of 5 patterns of jewelries: rings, pins, bracelets, necklaces and earrings

### Results

The results showed that jewelry is the kind of arts that requires skill and practice including the commitment to create jewelry to the beauty value and the value related to the wearer for the most comfortable feeling. Designers must consider materials used in jewelry manufacturing including the weight of each material to be assembled as a great piece of jewelry. The jewelries also have an impact on personality, gender, age and the wearer's taste very well. It's able to reflect the real personality in each person. In the past, jewelries were focused more on the expensive materials with complex and delicate structure. Unlike jewelries today, they are focused more on simple, unique and innovative shapes. This might be the result of city life with rush, that's why it has an effect on the present jewelry pieces which focus more on the structure than the importance of the design details. It also leads to the analysis which is consistent to the shape of jewelry making the most, graphic shape, because its shape is simple with less design than the natural and cultural shapes. Graphic shapes are shapes that form the infrastructure for the others and provide freedom of movement. The jewelry design is to apply basic principles of arts as a part of the beauty caused by a variety of materials. Designers, therefore, must be aware of the design structure. They should study the shape, gap and weight of each material used for forming the jewelry as well as each material used for various types of design. In each particular process, it requires high neatness to create the master piece. And if the materials are never used in jewelry work before, it will be more considered in the material details to avoid any errors when using the material for jewelry making, especially

rubber, as it is the material used in the industrial system for other products. Besides, there is no serious research on rubber used in jewelry industry yet. And when the study of the rubber quality was made, it's found that the resistance of sunlight and heat found in rubber, is the great implementation of the jewelries due to the resistance to all weather conditions, and is able to add color as needed as well. Color is also another feature that will make jewelry look more attractive. It attracts people to wear the colors of metal scrap rubber along with silver and various gemstones. This will increase the rubber jewelries' value. The researcher has analyzed the jewelry techniques and has concluded that the assembly of the popular accessories used in jewelry making the most is molding, followed by welding, embedding the gems, ring attachment, performing perforated framework, putting on glue with hollow inside and the last one is sandblast. For jewelry making, molding and gluing techniques are used to put rubber and silver together by using the most popular technique to combine with the least popular one for the perfect jewelry. For example, bring the hoop with the circle shape as the connector for more delicacy. As techniques of the circular shape happened from mainly using graphic shape especially the curve line and because the curve line gives the comfortable feeling, flexibility, continuity and the harmony in direction flow. It also gives the feeling of neutral which is able to blend with every design. The analysis has found that jewelry design is consistent with the technique and the parts assembly used in jewelry making. When blending the techniques and work assembly of jewelry making with different shapes used in jewelry design among graphic shapes, natural shapes and cultural shapes, it's found that these techniques are capable to be designed with every type of jewelries. According to the evaluation form of using rubber as the women jewelry, most people

realize that rubber can be used in various types of products recently. However, it's never been a use of 100% rubber to make jewelries and conduct a serious research study. Moreover, rubber used in jewelry making is also classified as a great material focused on the novelty of creativity. Using rubber in jewelry making also promotes the rubber agriculturist to find another opportunity to earn more income. As no one ever create the way to use rubber for jewelry extensively or unable to picture about its beauty and value; therefore, there is the creation of a new look for the jewelry industry to focus on exotic materials in jewelry industry which is considered as the reinforcement to use rubber within the country by creating the option of using rubber in a new look of products. This will also add more value of natural rubber and increase the employment as well as minimize the export volume to overseas market. By providing more support to establish the rubber plants for jewelry and a new alternative for jewelry industry, it's considered as the increase of ability for the plant to launch new products with the variety of design and meet the universal standard. It is the pass on knowledge and technology to the rubber plants and any

companies interested in jewelry industry for the commercial production later on.

### Suggestion

1. The suggestion for the design by designing the draft: the designer must consider the procedure of jewelry production or else it might cause the problem during the production process. Designing the jewelry must consider the result of data analysis received from documentation and evaluation form.

2. The suggestion for the production process from performing the production process: the learner should inspect and control every step of the production by himself, in order to get the perfect and accurate work as mentioned in the design to avoid any error on the production process. Therefore, it's a must to have the specialist in each production process. If any piece of jewelry appears only 15% different from the original, that jewelry will be considered as a defect and will later cause much more trouble. So there should be a proper work plan ahead of time prior the production as well as the calculation on time consuming for each production process, in order to reduce the cost and the production period.

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