# Innovations in patternmakking to enhance the comfort of bikinis

Inovações em modelagem para potencializar o conforto de biquínis



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## ABSTRACT

Comfort and functionality in bikinis are responsible for the physical and psychological well-being of users. Thus, seeking to enhance the positive experience of product usability, problems related to the bikini parts were analyzed, aiming at the search for solutions related to modeling problems. Thus, Rozenfeld's et al (2006) and Baxter's (2011) methodological procedures were based, as well as bibliographic research categorizing the research approach as qualitative and descriptive, also conducted a questionnaire with users of the product. In this sense, the structuring of the project was supported by subjective and objective criteria, which supported the innovative proposal in modeling. The fashion drawings of the pieces illustrated the suggestions for new textile compositions, as well as the application of the modeling technique integrated to the bikini, aiming to solve questions regarding the user's physical and psychological comfort.

#### **KEYWORDS**

Fashion Product. Usability. Innovation. Integrated Modeling. Project Methodology.

#### RESUMO

O conforto e a funcionalidade em biquínis são responsáveis pelo bem-estar físico e psicológico das usuárias. Dessa forma, buscando potencializar a experiência positiva da usabilidade do produto, analisou-se problemáticas pertinente às peças, visando a busca por soluções relacionadas aos problemas de modelagem. Dessa forma, teve-se como base procedimentos metodológicos de Rozenfeld et al (2006) e Baxter (2011), bem como pesquisas bibliográficas categorizando a abordagem da pesquisa como qualitativa e descritiva, também se aplicou questionário com usuárias do produto. Nesse sentido, a estruturação do projeto foi amparada por critérios subjetivos e objetivos, que deram suporte para a proposta inovativa em modelagem. Os desenhos de moda das peças ilustraram as sugestões de novas composições de têxteis, assim como aplicação da técnica de modelagem integrada ao biquíni, visando sanar questões a

respeito da comodidade física e psicológica do usuário.

## **PALAVRAS-CHAVE**

Produto de Moda. Usabilidade. Inovação. Modelagem Integrada. Metodologia Projetual.

#### INTRODUCTION

Since their creation in the mid-1940s, bikinis have undergone development in terms of materials, involving textile technologies, modeling, prints, and finishes of the pieces (Silveira & Lodi, 2017). In this sense, given the favorable outlook that Brazil has for beachwear, together with research on behavioral trends, one understands the need for innovations in clothing manufacturing industries in the state of Santa Catarina. Specifically, in terms of improving pattern-making to a more effectively support the needs of consumers, adopting a strategic approach.

Enseada is the brand addressed in this article. It is located in the city of Joinville (SC) and started as a bikini brand and later expanded to the fitness segment, working with products for females, males, and children. The brand directs its adult female products toward young and older women. The items dedicated to the young female audience are mainly bikinis. The one-piece swimsuits attend the preference of older ladies.

Given the above, the research was motivated by exploring the problem of how the theoretical foundations of innovation can contribute to improving functionality and comfort in bikinis. The bikinis selected are justified by the best-selling models of the Enseada brand, which mainly caters to the young female audience. Therefore, the present study was limited to the feminine public. The objective was to propose innovations in pattern-making to improve the comfort and functionality of bikinis, enhancing the user's experience with the product, especially when considering comfort and functionality.

#### 2 METHODOLOGY

The present article has as its research object the beach fashion collection of the company named Enseada. For that purpose, it relied on bibliographic research composed of articles, books, and other academic works. This research is both qualitative and descriptive. Furthermore, a structured virtual questionnaire was carried out with product users, addressing 14 open and closed questions, inquiring

about different experiences with the product, such as use, handling, colors, modeling, maintenance, and disposal of the pieces. The questionnaire received a total of 22 responses, which were analyzed to compose the results and discussions of this article. The structure of the work was based on the methodological design procedures proposed by Rozenfeld et al (2006) and Baxter (2011) and complemented by the authors, considering adaptations and adjustments to the fashion product design field (textile industry and clothing manufacturing).

The methodology was divided into three parts: (1) informational design; (2) product architecture; and (3) physical results. The (1) informational design stage aimed to discover the problems involved in the design (ROZENFELD et al, op.cit.). The (2) product architecture stage involved the study and development of concept, as well as research and structural decisions of the product, such as materials and modeling - with the latter meeting the main objective of this article (BAXTER, op. cit.). Finally, the third part, (3) physical results, corresponds to the outcome of the previous stages.

Figure 1 exemplifies Baxter's (2011) schematic model of the inputs and main results of the project configuration phase. The scheme supports an understanding of the unfolding and adaptations of the following stages. The configuration shown in Table 1 served as a reference for the present research. However, it is worth mentioning that the first step entitled by Baxter (2011) as "inputs" was replaced by the informational project methodology of Rozenfeld (2006).

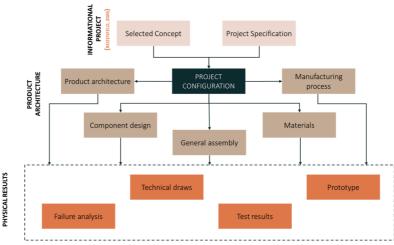


Figure 1: Methodological structure of the project's configuration

Source: adapted from Baxter (2011, p.306)

The next topic (results) will thoroughly explain the execution of the steps listed and sequenced in the methodology, showing and discussing the theoretical foundations and decisions regarding the work products.

#### **3 RESULTS**

## 3.1 Informational project

The first stage of the project, (1) informational design, followed the theoretical and methodological assumptions postulated by Rozenfeld et al (2006). Figure 2 details its steps. The research introduction is composed of market motivations (from academic materials and informative readings) and behavioral trends, thus directing the results to the clothing manufacturing industries of Santa Catarina, specifically. From the perspective of fashion trends, the Strategic and Sectoral Routes 2022 - developed by FIESC in conjunction with UFSC - brochure was the starting point to further investigation in the textile and clothing sector (ROTAS ESTRATÉGICAS, 2020).

In continuation of the scheme, information was sought about the company and the Enseada brand, including its market time, location, structure, number of stores, and number of employees. Additionally, the description of the brand helped identifying why the bikini brand became recognized, as well as areas in which the brand positioning and target audience's lifestyle definition could be improved. This led to the next item in the methodological scheme. Despite the brand catering to a broader audience, the study focused on the young female audience. To better define this group, a lifestyle panel was created using images that correspond to the habits of these women, as well as a mood board, to make the atmosphere in which the bikinis will be used clearer.

Motivation + behavioral trend Presentation of company and brand Selected Concept nces attended by the brand PART 1
NFORMATIONAL
PROJECT The mood board Competitors analysis Justification of the Project Specification The details of the chosen product The problem's definition / general objective

Figure 2: Informational project

Source: adapted by the authors from Rozenfeld et al (2006)

The competition analysis was done online on the e-commerce websites of four beachwear brands that target the female audience at the national level. The sample comprised products of the summer collection of 2019. From the collection, we analyzed both the most and the least sold models - data was provided by the company. The next stage involved the technical detailing of the chosen products, again due to the provision of technical sheets by the company. In order to understand the experience of using bikinis by women, we created an online questionnaire. A list was created with the survey results. For the purpose of the project, the list was divided into two attributes: materials and pattern-making. This article will focus on presenting the developments of this second attribute since the goal of the research is to improve the comfort and functionality of bikinis, enhancing the positive user experience with the product.

## Concept + Mood board + Color Palette

Louis Réard created two-piece bikinis in France in 1946. They became popular in Brazil in the late 1950s (DAI BRASIL, 2008). Since then, the pieces gained great popularity and acceptance among Brazilian women, due to the country's climate and geography. In addition, Brazil became internationally recognized for the model of its bikinis and the quality of the pieces (SILVEIRA; LODI, 2017). The Brazilian beachwear market receives many investments in materials,

labor, and technologies, developing and improving the sector (ibid.) In a favorable scenario, brands must align themselves with the users' needs. To this end, some of the informational data were synthesized in a mood board (Figure 3) to present the concept of this project in an image, which aimed to express the sensations of humidity, freshness, fluidity, sun, and sea salt.

Figure 3: Mood board



Source: elaborated by the authors

A color palette was extracted from the images that make up the mood board (Figure 3). The palette was divided between warm and cold. Warm tones are: sandy beige, mustard yellow, light orange, and dark orange. Cold tones form a scale of blue, inspired by the different shades of water, from the lightest blue to the darkest. For technical purposes, the reference on the Pantone scale for each color was indicated, which was omitted from this article because it exceeds its central objectives.

## **Consumer Audience + Lifestyle**

The Enseada brand does not provide in-depth information about its target audience. Thus, it was broadly addressed as female. Through casual conversations with those responsible for the brand, the authors deduced that customers are active and have in their daily routines the performance of physical activities, both outdoors and in gyms, and yoga studios, among others. The audience cares about health, and

above all, their physical aesthetics and well-being. Aligned with physical activities, these women dedicate themselves to a healthy diet, opting for light foods such as fruits and vegetables. In the summer, the audience enjoys both the beach and the pool. They record and share those moments on social media - a strong characteristic of their context. Professionally, these women have work routines and align their clothing with comfort and practicality. As for their adherence to fashion products, they tend to consume fashion information already consolidated by the masses, characterizing themselves as trend followers (figure 4).

Figure 4: lifestyle



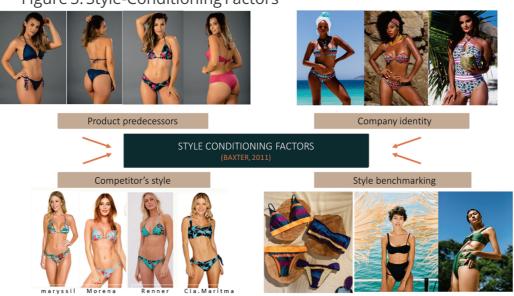
Source: elaborated by the authors

## **Style-Conditioning Factors**

For identifying the style-conditioning factors, it is necessary to understand various contexts related to the product to be improved or developed (BAXTER, 2011). Therefore, reference research was conducted to identify the style-conditioning factors of bikinis - the object of this study. The research used the most popular models of Enseada brand bikini as the predecessors of the product (the first four images of Figure 5), which had their materials and designs analyzed.

Afterwards, the analysis of the identity of the brand, and also of the competitors, was carried out. The competitors surveyed were: (1) Maryssil, a direct competitor for being located in the city of Joinville; (2) Morena Rosa, known for the quality of its products; (3) the bikinis sold by Lojas Renner, which s competitive prices and are nationwide; as well as (4) Cia Marítima, recognized for the ergonomics and appearance of the products. Results were summarized in figure 5.

Figure 5: Style-Conditioning Factors



Source: elaborated by the authors

## **Priority Table**

Regarding the design of clothing products, textile properties can vary in their presentation and functionality and alignment to consumer's needs and product purpose (LASCHUK, 2008). In this sense, to better understand the problems involved in the experience of wearing bikinis by the female public, an online questionnaire was carried out with 22 female respondents. Among other questions, it addressed which models are the most and least comfortable, including a space for the description of the bikinis. Responses were analyzed and results were divided into two themes: (1) textiles and (2) patternmaking. Chart 1 presents, according to the scope of this work, the product modeling problems, organized in descending order of

importance. The columns indicate (a) the problem, (b) the need to meet, and (c) the keywords for sorting solutions.

Chart 1: List of pattern-making priorities

ORDER	MODELING PROBLEMS	NEEDS	KEY WORDS
1	Bikinis with very small, uncomfortable modeling	Comfortable modeling and ideal size	Comfort
2	Modeling that does not value different biotypes	Modeling that values different biotypes	Address bodily differences
3	Bra that poorly accommodates the breasts.	Bras with comfortable and stable shapes.	Stable bras
4	Modeling that marks unwanted parts.	Models that don't mark the body parts so much	Models that do not constrain the belly and the back
5	Bikinis that move when diving	Stable fit	Stability

Source: elaborated by the authors

#### 3.2 Product architecture

The second part of the methodology focuses on the product architecture (Baxter, 2011). It falls into two categories: (a) project concept specifications and (b) product ergonomic analysis. (a) Concept specifications explores the concept in an imaginative way by enhancing the mood board developed in the first part of the methodology. From this, keywords for the concept and a color palette were identified. The second part, (b) product ergonomic analysis, focused on both the textile materials of the bikinis as well as the modeling aspects. Both attributes were considered due to the problems reported in the questionnaire.

In this case, the ergonomic study of the modeling of the bikinis followed the sequence: (1) analysis of the previous models by Enseada; (2) resume of problems raised regarding pattern-making; (3) generation of a table with the problems and requirements that would resolve the issues, and; (4) solution of each mentioned impasse. The research results pointed to the most appropriate models for the new textile material chosen in the material analysis. Thus, its technical detailing was carried out.

## 3.2.2 Ergonomic pointers for modeling

According to Silveira and Lodi (2017), there are two determining factors in the comfort of bikini users: (a) the material and (b) the modeling of the items. Laschuk (2008) divides comfort into functional issues, such as sensory comfort, thermal physiological and ergonomic, and aesthetic determinations, which are responsible for psychological comfort. The ergonomic comfort is consistent with the suitability of clothes - in terms of textiles - the model and the user's body, considering physical particularities and movement adjustments. Finally, related to aesthetic issues, psychological comfort aligns with the messages and meanings that a particular piece of clothing conveys (ibid.).

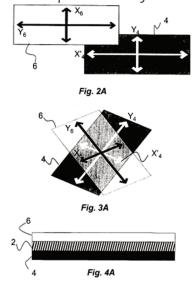
Pattern-making of garments is decisive in terms of competitiveness. Comfortable modeling of bikinis is essential since they are pieces used for leisure (SILVEIRA; LODI, 2017). In this sense, the way a garment covers the anthropometric features of the body and the specificity of the fabric influence the user's perception of comfort or discomfort. Another issue concerns the disparities in the sizes of pieces sold by different brands. Since there is no national measurement table for Brazilian garments, the size variation affects user safety. Patternmaking for garments made with elastane fabrics generally applies empirical knowledge (SILVEIRA; LODI, 2017).

These factors relate to the problems identified in the questionnaire. Reports described situations where bikinis were too little, becoming uncomfortable, and putting users in vulnerable situations, affecting psychological comfort. Because bikinis use elastic fabrics, they have favorable properties for adapting to the user's biotype. However, if the measurements used are inadequate, there is a negative influence on functional and aesthetic comfort (SILVEIRA; LODI, 2017). In addition, the questionnaire pointed out discomfort involving the shapes of panties and bras, including instability in bras that do not correctly fit the breasts and move during activities such as diving or other movements.

Baran, Dafniotis and Farmer (2019) affirm that the design of bras should consider the comfort of the user and the support that the bra should provide for the breasts. In addition, pieces molded to the body,

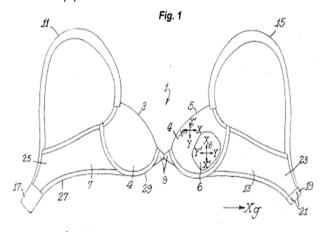
such as bikinis, can make the user feel changes in the positioning while moving. That results from the separation of the clothing and the area of contact with the body during movement, causing a loss of support for the body (ibid.). To meet the need for a comfortable and supporting model, various layers of mesh fabrics, such as lycra, in different directions (fig. 6) help the dynamics of the cloth in motion without moving away from the user's body. In this way, in addition to the fabric layers providing support and support, they provide physical and psychological comfort since the piece becomes stable (ibid.).

Figure 6: Display of multiple fabric layers



Source: Baran et. al. (2019, p.45)

Figure 7: Technic applied to the bra

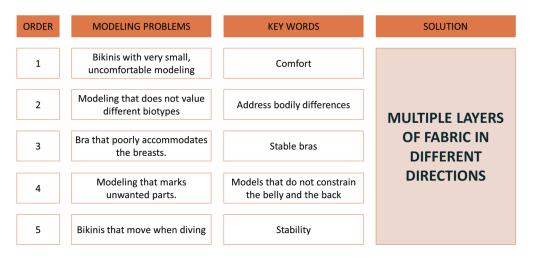


Source: Baran et. al. (2019, p.45)

Figure 7 uses the X and Y axes to illustrate how the different fabric layers are applied to the bra. It is possible to observe that in the place indicated by number 5, the Y axis is vertical. On the other hand, number 6 indicates the opposite axis, Y, is horizontal.

Baran, Dafniotis, and Farmer (2019) indicate integrated modeling as a technique for developing alternatives to enhance the properties of garments. In this way, the advantages of fabrics go beyond their compositions or weaving. Their applications and combinations work towards solving problems involving the needs of users. The combination of different fabric layers suggested by Baran, Dafniotis, and Farmer (ibid.), adapts bras to different biotypes since they are suitable for bodies that are not just thin ones. This same technique proves efficiency in other areas of the body, thus being able to include its application to panties, overcoming the problem of bikinis that mark unwanted parts, and valuing the body differences of the consumer public.

Chart 2: List of priorities and solutions



Source: elaborated by the authors

#### 3.3 Physical results

Based on the research and the proposed solutions, the authors generated ideas for the products' improvement. The most appropriate proposal was selected. Sketches (fashion drawings) of the pieces illustrate the aesthetic and technical details. In addition, an informative

label presenting the fabric's composition o and the instructions for maintenance accompanies the bikini. As a result of the different steps, the design of the pieces was reached. One of the best-selling models by the company was maintained with updates. The print, color, and concept originate from the mood board defined in this work. In terms of pattern-making and materials, the proposal is to use three layers of fabrics with different properties that complement each other to meet the needs posed by the users.

In addition to expanding the layers of fabric to add different textile properties, the multiple layers of fabric meet the integrated modeling technique suggested by Baran, Dafniotis and Farmer (2019), which give mobility and stability to the pieces, in addition to not undesirably marking certain body parts. Figure 8 illustrates the segmentation of the three layers of fabric that make up the bra and panties of the bikini. In addition, as the bra had multiple layers, it was possible to make it double-sided, enhancing the duration of its useful life. Therefore, the tie straps are composed of unique colors to harmonize with the two prints.

Layer 3
Double face

Layer 1
Double face

Inner lining

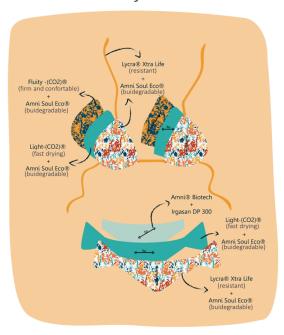
Layer 1
Outer fabric

Figure 8: Enlarged sketch and detailing of the structure of the bikini

Source: elaborated by the authors

Based on the studies about innovations in textile materials and modeling, the figure indicates the distribution of fabrics between the layers of the bikinis. In addition, it demonstrates the varying direction of the warp between fabric layers. Such proposition attended the integrated modeling and responded to the main consumer request. Figure 9 presents the specifications of each layer in terms of fabrics and their properties, as well as the composition and yarn direction of patterns.

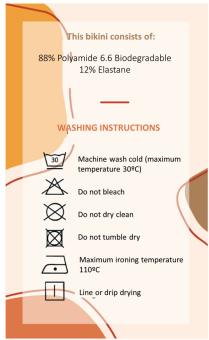
Figure 9: Specifications of the layers and fabrics used



Source: elaborated by the authors

According to In metro (National Institute of Metrology, Quality, and Technology) regulations, garments must contain a textile label where the consumer can find the size of the garment, the brand and company names, the manufacturing country, the composition of the fabrics in percentage and the instructions for maintenance. Following the scope of the work, an informative label presents the fabric's composition and maintenance (do not exceed a temperature of 30° degrees, do not use bleach, do not dry clean, and do not dry in a rotating drum). Care for the maintenance of the garment is essential for optimizing its lifecycle and preserving the properties offered by both textile materials and modeling.





Fonte: elaborated by the authors

#### 4. FINAL CONSIDERATIONS

Based on the motivation of behavioral trends underlying the guidelines for Santa Catarina's textile industry, we identified the favoring of technology and innovations in garments. In this way, there was an opportunity to deepen the study on bikinis from the Enseada brand – a company in the north of Santa Catarina – which made sales reports available, making it possible to identify female bikini models as the best-selling pieces by the brand. Thus, seeking to innovate in textile dimensions and having bikinis as the object of study, a design methodology was followed, aiming to guide the path to follow for the survey and suggestions for improvements in the pieces.

The method started with the informational project by Rozenfeld et al. (2006), where it was possible to investigate, through a questionnaire applied to the users and list the problems related to bikinis, as well as enabling the development of panels referring to the target audience, the mood board, and the color chart. The second part of the

methodology references Baxter (2011), with the formation of the product architecture, covering the subjective and conceptual stages as well as the objective and material criteria referring to innovations and solutions to ergonomic problems. In this phase, it was possible to research textile technologies and innovations in modeling, to solve problems pointed out by the users in the questionnaire.

The final step, designated by physical results, comprises data obtained in the previous stages. From them, we developed an alternative solution to the problem. Although maintaining the model of one of the company's best-selling models, the bikini had incremental innovations in textile combination and pattern-making - with the modeling solution integrated into the fabric consisting of multiple layers placed in different directions of the warp, allowing greater comfort and safety during the movements of the users. The technique of conjoining different layers of fabrics in multiple directions met the comfort needs related to the use of bikinis by the users. Since the modeling generates stability, it does not squeeze specific parts of the body and, thus, values the different biotypes of the target audience.

Applying theoretical foundations to textile and modeling innovations improves the comfort and functionality of bikinis, enhancing the user's positive experience with the product. This investigation achieved its goal mainly by following the steps proposed by the design project methodology. The method places the user at the center of the project and offers an effective mapping regarding the user's problems. Thus, the knowledge provided by bibliographic research favored the proposed solution effectively, as it meets the needs and desires of the user public.

#### **5 REFERENCES**

BARAN, Joyce I; DAFNIOTIS, Petros; FARMER, Douglas K. Tecido multicamadas e vestimenta para a modelagem do corpo. Titular: Invista Technologies S.A R.L. BR 122018012871-2 Bl. Depósito: 11 out. 2006. Concessão: 10 set. 2019. Disponível em: https://patentimages.storage.googleapis.com/1d/f7/2c/f514f7ea1 9718f/BR122018012871B1.pdf. Acesso em: 14 jul. 2020.

BAXTER, Mike. Projeto de Produto: guia prático para o design de novos

- produtos. 3. ed. São Paulo: Blucher, 2011.
- DAI BRASIL (org.). INSERÇÃO DE MICRO E PEQUENAS EMPRESAS NO MERCADO INTERNACIONAL: análise da indústria de moda praia. 3. ed. São Paulo: Usaid Brasil, 2008. Disponível em: https://docplayer.com.br/3413271-Analise-da-industria-de-modapraia.html. Acesso em: 30 jun. 2020.
- FASHION NETWORK. Santa constância apresenta linha de tecidos Disponível ecológicos. https://br.fashionnetwork.com/news/santaconstancia-apresentalinha-de-tecidos-ecologicos, 436712. html. Acesso em: 7 jul. 2020.
- LASCHUK, Tatiana. Aplicação de Têxteis Inteligentes a Produtos de Design de Moda. 2008. 168 f. Dissertação (Mestrado) - Curso de Especialização Design e Marketing Têxtil, Escola de Engenharia, Universidade do Minho, Portugal, 2008. Disponível em: https://core.ac.uk/download/pdf/55610565.pdf. Acesso em: 30 jun. 2020.
- LYCRA. Summer Style Protection. Disponível em: https://www.lycra.com/en/Lycra-Moves/~/link.aspx?\_id=57DE85EC2EAC44B5BBF1272B34738934& \_z=z. Acesso em: 7 jul. 2020.
- RHODIA SOLVAY GROUP. Amni®. Disponível em: https://www.rhodia.com.br/pt/mercados-e-produtos/catalogo-deprodutos/amni.html. Acesso em: 7 jul. 2020.
- ROTAS ESTRATÉGICAS E SETORIAIS 2022: têxtil e confecção. Florianópolis: Fiesc e Ufsc, 2020. Disponível em: http://www4.fiescnet.com.br/images/homepedic/Textil% 20e% 20 Confeccao% 20-%20Estudo%20de%20Tendencias.pdf. Acesso em: 08 jun. 2020.
- ROZENFELD, Henrique et al. Gestão de Desenvolvimento de Produtos uma referência para a melhoria do processo. São Paulo: Editora Saraiva, 2006.
- SÁNCHEZ, José Cegarra. Têxteis inteligentes. Revista de la Industria Têxtil, Espanha, v. 1, n. 86, p. 58-76, mar./2006. Disponível em: https://www.ufjf.br/posmoda/files/2008/07/T%C3%AAxteisinteligentes.pdf. Acesso em: 6 jul. 2020
- SANTACONSTANCIA. AMNI SOUL ECO®. Disponível em: http://santaconstancia.com.br/noticias/amni-soul-eco/. Acesso

em: 7 jul. 2020.

SILVEIRA, Cláudia Sarmento; LODI, Renata. Gradação de moldes: um estudo sobre biquínis. 2017. 32f. Trabalho de conclusão de curso (Especialização). Especialização Em Modelagem Do Vestuário, Universidade Feevale, Novo Hamburgo, 2017. Disponível em: https://biblioteca.feevale.br/Vinculo2/00000f/00000f77.pdf. Acesso em: 22 jun. 2020.

VASCONCELOS, Fernanda Gomes De; Avaliação dos resultados obtidos no equipamento Moisture Management Tester (MMT) comparativamente a outros métodos de medida de gerenciamento de umidade. Programa de Pós-Graduação em Têxtil e Moda, Escola de Artes, Ciências e Humanidades da Universidade de São Paulo São Paulo, 2016.

VEIGA, Cristiano Henrique Antonelli da; BRUM, Tonia Magali Moraes; MOISEICHYK, Ana Elizabeth. A ineficiência da capacidade inovativa para a manutenção das exportações de moda praia feminina brasileira: um panorama do período 1999 - 2009. Santa Maria, 2009.



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