

# **Topic № 4**

# **TEXTILE ART**

# **AND FASHION DESIGN**

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*Artistic design*

*(industrial design).*



НАЦИОНАЛНА  
ХУДОЖЕСТВЕНА ГИМНАЗИЯ  
•ДИМИТЪР ДОБРОВИЧ•  
СЛИВЕН



Национален музей  
на текстилната индустрия  
Сливен

## СТИЛОВЕ В СЪВРЕМЕНОТО ДЕТСКО ОБЛЕКЛО

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The question of style in modern children's clothing can be seen as part of the wider topic of children and style. This point of view applies to all areas related to the practical application of styles in the children's environment such as clothing, design and architecture. Style in children's clothing has several main roles. They are aesthetic, constructive, psychological, pedagogical, symbolic and sign-communicative. It is not by chance that the term "style" is associated as a term for various areas of human knowledge, behavior, as well as for communication with the surrounding world.

The relationship between style and fashion is obvious, although style appears to be a more persistent and significant aesthetic criterion for clothing. This is a fact because style is not just the external appearance, it is above all an expression and consequence of the inner peace, feelings, aspirations, ideas and behavior of each young individual, through the prism of the parents' views on aesthetics and taste. Many different styles are emerging in modern fashion for adults and children, but some of the most popular are: classic, romantic, sporty, casual and denim. These basic styles are also characteristic of children's clothing, of course, developed through the prism of the requirements of this segment of fashion.

## TEXTILE IN THE INTERIOR THE CEILINGS

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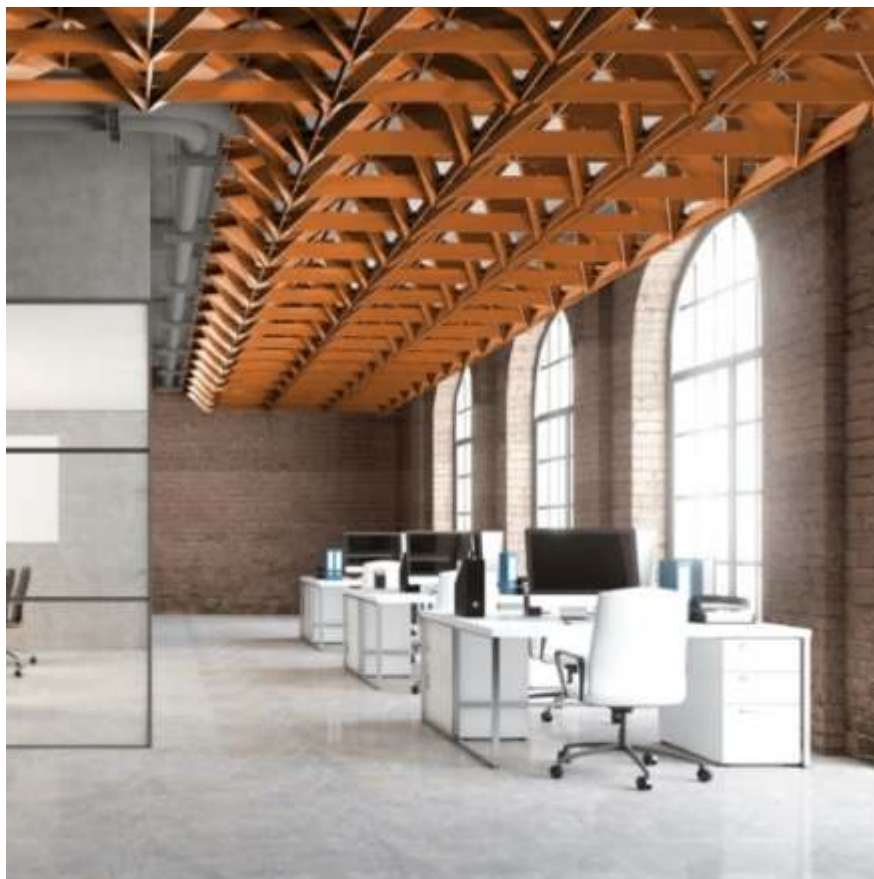
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For millennia, textile has had its well-deserved and irrevocable place in the layout of interior spaces. It is presented in various forms, fulfilling a variety of functional and aesthetic roles. Walls, windows, floors, furniture, and lighting fixtures could be covered with textile. Not infrequently it is a main material in the construction of elements which are a part of an interior, but in some samples, older than a few decades, we see it as a material for a ceiling solution.

The ceiling is an extremely important room part. Compared to the other elements – walls and floor, its area remains mostly visible and uncovered by furniture and accessories. Often its role is underestimated even by designers and architects, but it is an important factor in the lighting quality, acoustics, compositional integrity, soundproofing and thermal insulation. The ceiling area is also a great field for expressing decorative and aesthetic ideas. From the interior design point of view, the ceiling has no longer been only a part of the vertical finish of a space or an ordinary background for the lighting fixture.

The report examines the possibilities for the application of textiles in this very important part of interior architecture. It tracks and analyzes various design solutions, constructive and technological approaches, considers that modern design has the privilege of benefiting from both traditional and established application models, as well as from modern and newly emerging technologies and opportunities.

**Keywords:** textile ceilings, stretch ceilings, acoustic panels



# APPROACHES TO THE DESIGN OF FLEXIBLE STRUCTURES FOR TEXTILE AND SURFACES MANUFACTURED BY 3D PRINTING: A REVIEW OF TENDENCIES,

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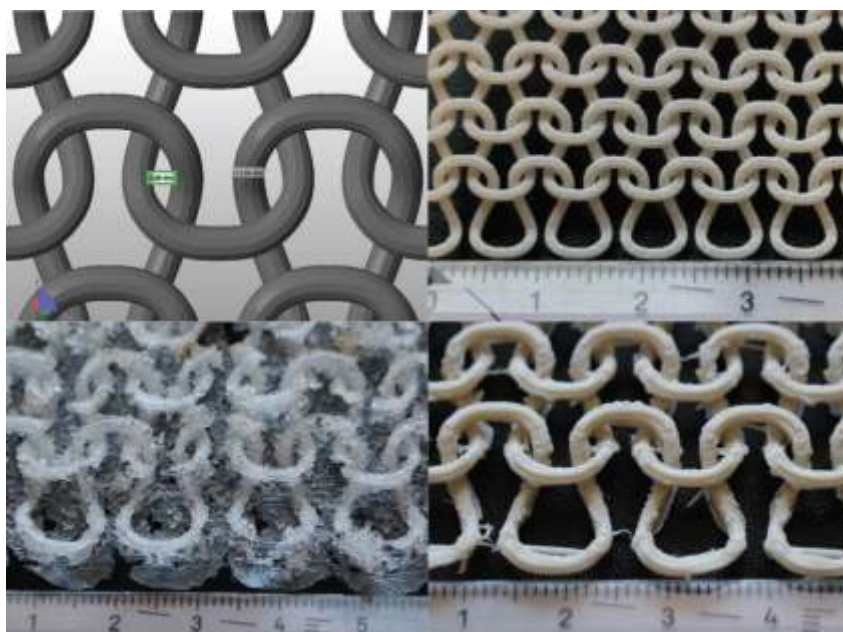
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3D or three-dimensional printing is a technique for creating three-dimensional objects in which a computer-designed object is created by adding material layer by layer. This technique is used in fields such as medicine, architecture, design, etc., including in the design of textiles and surfaces.

The process of creating three-dimensionally printed textile structures differs from traditional notions of textile as a product obtained by weaving, knitting, etc. fibres of vegetable, animal, synthetic or other origin. The materials used for 3D printing are predominantly synthetic polymers and some types of natural polymers, which allow the creation of hard-to-the-touch surfaces and textile structures. These and other features of 3D printing are simultaneously challenges and a tool for creating surfaces and textiles with alternative aesthetics and functionality.

There is a variety of design approaches for the creation of textile structures using 3D printing, e.g. the imitating of traditional textile structures such as weave and knit; or creation of structures composed of connected elements similar to the historic metal chain mail. Another approach is the creation of structured sheet surfaces of different thicknesses, whose structure changes with movement and thus provides elasticity and flexibility characteristic of textiles. To bring the three-dimensionally printed “textile” closer to the feel of traditional textiles, the two can be combined by 3D printing of two- and three-dimensional patterns, structures and elements onto traditional textiles.



This review of the current tendencies aims to analyse the relationship between material, structure, function and aesthetics in the design of textiles and surfaces using the 3D printing technique. The basic systematisation and classification of strategies for the creation of textile-like feel of thus created surfaces reveals various approaches to transform otherwise hard-to-the-touch materials into flexible and almost “soft”, “liquid” structures.

**Keywords:** industrial design, 3D printing, applied arts



# STRUCTURE AND COLOUR IN THE DESIGN OF TEXTILES AND SURFACES: FROM NANO-STRUCTURES TO MACRO-STRUCTURES

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Colour is an essential component of the design of almost all man-made products. The creation of colour in textiles and surfaces has traditionally been achieved by the addition of pigments and dyes, and in some cases by decolourisation. Some of the pigments, dyes, discolouring agents and auxiliary materials are toxic. Industrial dyeing processes can be harmful to both the people involved and the environment. Colours achieved through dyes are often unsustainable over time, affecting the production and consumption cycles of textile products.

Is it possible to achieve colour without pigments and dyes?

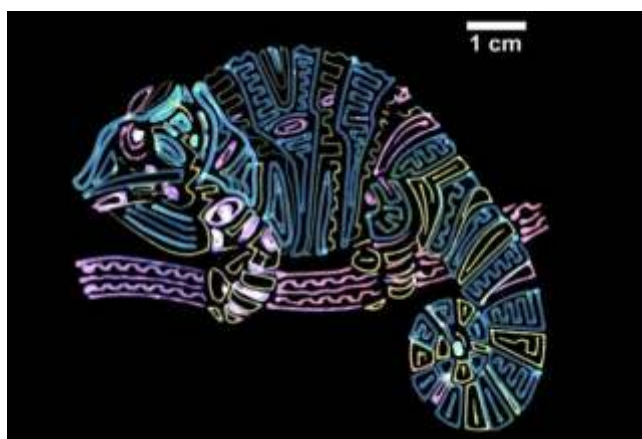
In nature, many colours are due not to pigments but to the nano- and micro-structuring of the materials. Examples are found in many insects such as butterflies and beetles, plants, iridescent substances such as opals, crystals, pearls, etc.

Today, this type of nano- and micro-structures are the basis of a number of practical studies in the field of nano-technology, aiming to create new methods for permanent structural colouring of textiles and surfaces. The idea is to achieve methods for environmentally sustainable colouring by structuring the textile building materials themselves or by nano-structured coatings on textiles.

The term “structural colouring” means the creation of a variety of colours and optical effects at a visible level through invisible micro- and nano-structures. Another interesting interpretation of the term “structural colouring” is the creation of an optical effect resembling iridescence by combining pigment-coloured elements and visible macro-structures. This type of visual effect comes from techniques such as lenticular printing. Today, 3D printing technology allows for the addition of macro-structures to traditional textiles in order to achieve intriguing aesthetics through eye-catching optical effects.

This paper aims, through a review of recent developments for structural colour creation from the nano-level to the macro-level, to analyse functional and aesthetic aspects of the relationship between colour and structure that inspire new ideas and methods for textile and surface design.

**Keywords:** industrial design, textiles, colours, textures, applied arts



## ZERO WASTE FASHION DESIGN - A REVIEW

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**Abstract:** In the last 3 decades the fashion industry has become a complex, fragmented, global system. At its core, this industry constantly encourages the consumption of the "fashionable" and the discarding of the old. It has resulted in a negative impact on the environment and the people at the bottom of the supply chain - the clothing and textile manufacturers.

The "Zero waste" strategy is an ethical, economic, effective and visionary goal to change habits and lifestyles along the lines of sustainable natural cycles, where all waste materials are intended to serve as raw materials for other processes. "Zero waste" has a goal of design and managing products and processes in a way that systematically limits the volume and removes the toxicity of waste and materials by conserving and recovering all raw materials rather than incinerating or landfilling them.

The use of "zero waste" as a method in fashion design has been developing over the past ten years. Its main goal is to develop fashion designs with no cutting residue. Although it has been a method used since ancient times, today it is preferred for sustainable purposes. Zero waste fashion design does not necessarily mean that we have to stop making clothes to reduce waste. Professionals and researchers in the fields of fashion design and pattern making develop existing approaches, creating new zero-waste design technics. In at its core, the process is a plan-driven process with fabric manipulation and hands-on training of the designer.

The paper presents contemporary examples of zero-waste fashion designs with an emphasis on the work of designers and their efforts to minimize waste material in cutting. The designers' used approaches and their creative solutions of creating zero waste fashion designs have been studied and analyzed. The results of analysis can be used directly in creation of new zero or minimizing waste fashion designs.

**Keywords:** sustainable fashion, zero waste fashion design, zero waste pattern making.

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## BUILDING A SUSTAINABLE FASHION BRAND

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The emergence of slow fashion, ethical fashion or sustainable fashion is a natural extension of the giant movement in the fashion industry. Throughout the 20th century, every ten years we have a radically different visual state of fashion. At the end of the 20th century and the beginning of the 21st century in the fashion industry, visual changes are every season - radically different designs, radically different silhouettes, textures and details. This encourages consumers to consume more and more products, which is directly proportional to the discarded products. This dynamic cycle is completely influenced by the fashion trends that change every season and this accelerates the industry and consumption more and more.

The creation of designer fashion products outside of trends is based on two principles. One is the distinctive stylistics of the fashion designer, who creates an individual, distinctive design, fully aligned with the distinctiveness of the brand, and not with any trend. The other is the clothes that have become classics. These garments never go out of style and always look good in one's wardrobe.

Building a sustainable fashion brand today is characterized by several factors.

- The materials from which the author's products are manufactured must be certified with certificates.

- Its production should be with optimal use of the resource.

- The production materials are recycled.

- Production should be Zero waste.

- The production should be made to order.

- The design is patented for sustainable innovation.

- The design should be outside the trends.

- The positioning of the fashion brand should be niche.

- Production should be small or medium, with good working conditions.

For a fashion brand to be sustainable, it must meet one or more of these factors. The more they are, the more stable the fashion brand is. The clearly laid out structure in building a fashion brand with sustainable contemporary positioning, adapted in the modern digital distribution of the fashion industry, leads to great qualitative results for realization in the XXI century.

**Keywords:** sustainability, brand building, zero waste, recycled, slow fashion.

