

## A MODERN TAKE ON A TRADITIONAL DESIGN CARVED CEILING

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### ABSTRACT

The modern approach in design seeks to preserve traditional concepts in creativity, but through the eyes of contemporary art. A complete design of a modular composition of a carved ceiling in the tradition and artistic techniques of Renaissance art is presented. It is combined with modern LED lighting to match the shape and composition of the wood carving. This project also preserves the cultural heritage of the dying craft of woodcarvers. The project was realized using a traditional carving technique. The lighting was installed and the calculated illuminance was tested, which corresponds to the design.

**Key words:** design, wood carving, carved ceiling.

### INTRODUCTION

During the revival, national characteristics played a major role in the construction of the architectural and artistic traditions in the construction of the interior, of which the ceiling is an integral part. The carved ceiling brings natural beauty and coziness to the interior. Their decorative processing is in accordance with the characteristic features of the local culture and features of artistic techniques. In their decoration, the individuality of the room is given by emphasizing the rooms with a representative character, such as the lounge and the guest room. The ceiling acquires plastic forms mainly with images of flowers and garlands (Koeva, 2003; Kornakov, 1994). The priority is the detail and openwork carving in the center of the room. An obligatory element is a stylized solar sign in the center, which symbolizes love of life and is a sign of prosperity for the family and the owner of the house (Angelov et al., 1998). Characteristic of the carving heritage in ceiling decoration is that artistic ideas are expressed in an original approach. With a wide variety of shapes and techniques. In one type predominance of decorative appliqué, in

others carving, and still others use both approaches and convey a monumental character in the internal layout of the interior (Arbaliev, 1977; Gergova, 1993).

The design of the ceiling reflects the character of the art school. In the Samokov School of Art, he used carving motifs and compositions positioned in the center and in the corners of the space. The wood carving is masterfully crafted with plant motifs. Usually, it acquires an almost openwork character. The central motifs have the greatest artistic importance in these ceilings. The most common motifs in the composition are blossoming branches decorated with fresh flowers and slightly elongated leaves (Arbaliev, 1977; Milcheva, 1979).

The ceilings in Tryavna, Veliko Tarnovo, Dryanovo also have a specific appearance. In them, the abundance of plant motifs is imposed, filled with professional craftsmanship and artistic flair. The composition is simple, but lively and original by decision. The individual carved motifs are harmoniously connected. The central motif is firmly woven into the rest of the compositional elements and it is unthinkable to separate it from

the ceiling ensemble (Vassilev, 1952; Vassilev, 1965).

In Plovdiv, Koprivshtitsa, Karlovo, Paganagurishte. Kazanlak, Sliven and Pazardzhik have many ceilings with rich carpentry and carved decoration, which in terms of qualities and stylistic features cannot be attributed to either the Trevne school or the Samokov school. The decorative appliqué predominates here. The carving is shallow cut and relatively little of the center is used. The composition is built on the principle of biaxial symmetry.

According to their plastic development, three types of compositional solutions can be distinguished (Ivanova et al., 1979; Angelov et al., 1998; Tryavna, 2023).

1. Form of decoration with a neutral geometric composition. Whose plastic structure is made up of the same motifs, repeated in a certain order, rhythm and symmetry.

2. Form of the decoration with a combined decorative composition. With a central motif located on a neutral background or the motif grows and continues and unfolds the motifs and plastic on a characteristic ornamental background.

3. Form of the decoration with a central axisymmetric composition. They have a complete and unified and complete plastic composition.

The ornamentation is with floral motifs (flowers and twigs often intertwined with slightly drooping leaves) combined with zomorphic forms (Angelov et al., 1998).

An approach was chosen for symmetrically repeating motifs to be realized as individual panels with a continuous motif unfolding over the entire area.

## MATERIALS AND METHODS

The AutoCAD software was used to design the elements of the woodcarving.

The material from which the project was realized is spruce wood. Four symmetrical elements form the overall composition.

The workmanship is of traditional hand carving with a finish that leaves visible traces of the tool during processing, the surface is covered with polish.

Before installation, holes are drilled in the ceiling plate for the fittings, which are built in and wired into pre-created channels in the back.

The lighting fixtures are designed to be installed in E14 sockets. LED lighting fixtures with a small bulb and low power have been selected. The small power will reduce their heating and increase environmental efficiency.

Calculation of illumination of the room,

$$E = \frac{1 \text{ lm}}{1 \text{ m}^2} (\text{lx}) \quad (1)$$

Illuminance depends not only on incident light, but also on reflected light (Varbanov, 1999). Diffuse light depends on the color and surface of the objects. We assume that the reflection coefficient is 0.5. We also have four LED lighting fixtures with a power of 6W and 480 lumens. Then for the illumination of a room of 12.5 sq/m we get:

$$E = \frac{0,5 \times 4 \times 480}{12,5} = 76,8 \text{ lx} \quad (2)$$

## RESULTS AND DISCUSSION

Four identical panels with a size of 70 x 70 cm and a thickness of 3 cm were selected and assembled. After assembly, we will reach a size of 140 x 140 cm. With which I formed a central element. Two variants were created with a circular central motif and a square one. The use of stylized floral motifs (flowers) is traditional for the composition of Renaissance ceilings (Milcheva, 1979). The second ornament that is used is more unconventional. It is an acanthus leaf (Ivanova et

al., 1979; Koeva, 1979). Although used in ecclesiastical carving, it is rarely seen in ceiling design. The variant with a circular central element is more associated with the traditional solar motif (fig. 1). The rest of the sole is 1 m. in all cases it remains on plaster. In the central part, there are 4 flowers with sizes corresponding to the size of the light fixture. Placing the bubble of the LED lamp in the center of the color seeks to imitate the pistil in the flowers.

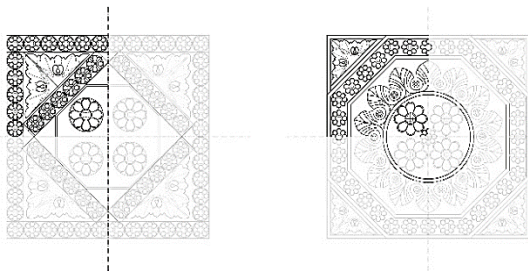


Figure 1: Conceptual Project

A project to increase the composition is shown in Fig.2. In the square version, it is planned that 10 cm of space from the ceiling will remain visible and a frieze with flowers 10 cm wide and 2 cm high will be installed around the central element. In the round version, four semicircular elements with a height of 2 cm are added to the four panels in the middle, in which the unfolding of the scholastic composition continues. 2 intertwined squares are formed, which form an eight-rayed star.

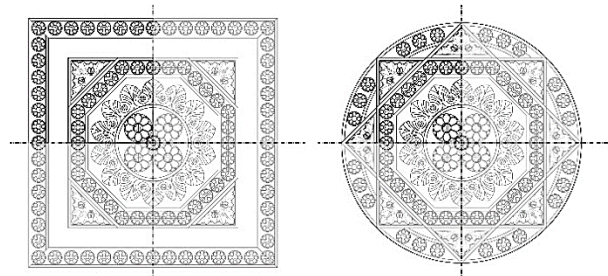


Figure 2: Project with added elements.

In fig. 3, the account sheet has been replaced with a bas-relief of a sunflower. The

element was chosen because of the site's location in Dobruja.

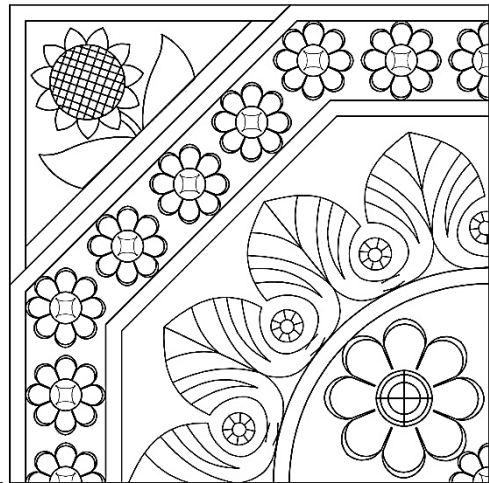


Figure 3: Sunflower detail.

Fig. 4 shows one of the four elements of the composition made.



Figure 4: Crafted modular element.

The finished carving before drilling the holes for mounting the lighting fixtures is shown in Fig.5.



Figure 5: Finished view of the four modules.

The finished look with installed lighting fixtures is shown in Fig.6. The combination of lighting fixtures with traditional wood carving achieves the desired effect. The balloon of the bulb merges with the flower of the carving. Due to the open mounting (necessary for this type of lighting) the lighting does not cast shadows. The standard base of the lamps allows their easy replacement. Low-power ceiling-mounted LED luminaires do not heat up and there is no danger of darkening the wood around the lighting areas.



Figure 6: Finished look with built-in lighting.

Measured illumination 77.4 lx by means of a spectrometer is shown at fig. 7. From formula (2) when calculating, 76.8 lx was obtained. The obtained value corresponds to the theoretical one. The recommended norm for bedroom lighting is 120lx.

Achieving the recommended lighting can be achieved by mounting a fifth light fixture in the center of the composition. The measured and calculated illuminance is below.

When measuring at a height of 1 m above the floor, the result is 143.2 lx.

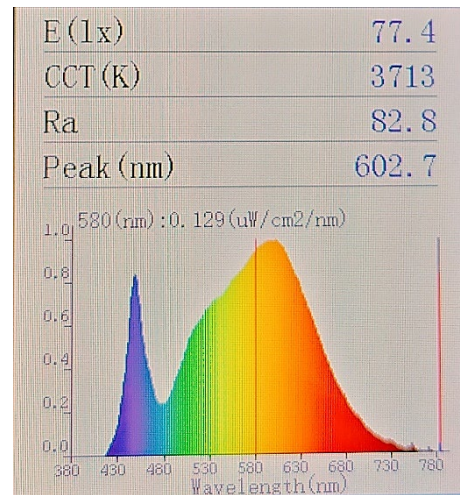


Figure 7: Measured lighting in the room.

## CONCLUSIONS

The project is an original author's development, preserving the traditions of the Bulgarian woodcarving school. It combines the modern aesthetics of wood carving while preserving the traditional method of production and has an individual style. A modern lighting system is woven into the traditional elements of classical wood carving.

A disadvantage is the spectral characteristics of the used lighting fixtures, which can be replaced.

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UNIVERSITY OF FORESTRY

FACULTY OF FOREST INDUSTRY



# **INNOVATION IN WOODWORKING INDUSTRY AND ENGINEERING DESIGN**

## **2/2023**

INNO vol. XII Sofia

ISSN 1314-6149  
e-ISSN 2367-6663

Indexed with and included in CABI

# INNOVATION IN WOODWORKING INDUSTRY AND ENGINEERING DESIGN

Science Journal  
Vol. 12/ p. 1–88  
Sofia 2/2023

ISSN 1314-6149  
e-ISSN 2367-6663

Edition of  
**FACULTY OF FOREST INDUSTRY – UNIVERSITY OF FORESTRY – SOFIA**

**The Scientific Journal is indexed with and included in CABI.**

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**Cover Design: DESISLAVA ANGELOVA**

**Printed by: INTEL ENTRANCE**

**Publisher address: UNIVERSITY OF FORESTRY – FACULTY OF FOREST INDUSTRY**

**Kliment Ohridski Bul., 10, Sofia, 1797, BULGARIA**

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