

The National
Library of
Israel



PROJECT DESCRIPTION

In late October of 2023, the new National Library of Israel (NLI) opened its doors to the public. Since its foundation over 130 years ago, the Library has served as a center of research and learning, holding the world's largest collection of Hebrew and Jewish heritage treasures including more than four million books and rare items. In its new home in Jerusalem's Government District, the distinctive new 45,000-square-meter landmark building was designed to reflect the value of democratizing knowledge and making it accessible to all. Since its opening, the Library has become one of Jerusalem's cultural and architectural "must-visit" sites, with a visitor wait-list of several weeks.

To achieve their vision of juxtaposing the traditions of great libraries with contemporary design, while adhering to the Jerusalem municipal building-code that all structures be faced with local Jerusalem stone, architects designed all four external facades and the Library's rooftop following a principle that not a single stone will be cut in a square or rectangular shape!

The unique challenge was approached with a combination of innovation and traditional craftsmanship. A state-of-the-art Donatoni CNC machine was used to produce hundreds of differently shaped curved pieces of Jerusalem Gold limestone sourced from a quarry in Mitzpe Ramon. Using the machine stones were cut-to-size according to DWG AutoCAD design files prepared by the architects, then using special equipment each stone was given a fine-chiseled finish which resembles the ancient hand-chiseled texture of Jerusalem's Western Wall.

The project's meticulous quality standards required laying dry-mockups of 150-square-meter each on the factory floor. Each mockup was inspected by both the architects and project manager that signed-off on each and every stone. The stones were then set in panels at a pre-cast factory, and gaps between them were filled in concrete in the Jerusalem Gold color. On-site the concrete was chiseled by hand to create a texture equivalent to the fine-chiseled finishing of the stone.

The Library's extraordinary design was enhanced by windows created in the openings between curved ledges of adjacent stones, forming abstract shapes and patterns that are reminiscent of ancient text which lend an appearance suggestive of pages in an old book. For the thick window sills, rough blocks were cut to cubes which were then given their unique shapes using a Pedrini CNC machine which cut-out curved and rounded parts from each block, achieving the architects' specifications for each stone.

Finally, Jerusalem Gold limestone was also sourced for Letters of Light, an outstanding sculpture designed for the National Library by a world-renowned artist. The sculpture which is located on the East end of the Library Garden was created using 22 giant rocks carved to form Hebrew letters in a play of light and shadow using negative space. Here the artist chose a natural cleft finish on each side of the stone, a challenging requirement in stones of these very large sizes.



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The National Library of Israel



CNC production



Dry-mockup laid on the factory floor



Precast production



First complete walls



