

MASS KONFEKSIYON - LEED Platinum Certificate

As a result of research carried out in today's conditions, where environmental problems such as global warming and clean water supply have reached serious dimensions, it has been revealed that approximately 40 percent of the world's energy consumption and about 30 percent of water consumption are caused by buildings. In addition, approximately 90 percent of human life is spent in buildings. All these reasons highlight the need for more efficient, more livable, environmentally friendly buildings that consume less resources. In addition, while designing environmentally friendly buildings, factors that directly affect human health such as indoor air quality, natural lighting, temperature and humidity control, waste management are planned, and it is aimed to leave a cleaner environment for the end user with the methods used in its construction. In addition, it is seen that employees working in environmentally friendly buildings get sick less than those in other buildings and their working performance is higher.

Buildings built with traditional methods consume 70% of energy and materials, 17% of water, 25% of forests and increase CO2 emissions by 33%. Only 5% of recycled materials are used in traditional buildings.

With Green Buildings; as a reflection of reduced waste, especially energy and water savings, it is possible to increase indoor air quality, to increase the comfort and efficiency of the building user, to reduce the health expenses of the employees, and to lower operating and maintenance costs. On average, Green Buildings consume around 30% less energy than conventional buildings. The water consumption of Green Buildings is also very low; By using efficient reservoir and urinals, sink and shower mixers, nearly 50% water savings can be achieved. In green projects, 50% water savings can be easily achieved by following various strategies and practices in landscape areas.

The LEED certification system, which has been implemented since 1998, is an environmentally friendly building certification system developed by the American Green Building Council (USGBC). The version of the LEED certification system, which has been in use since 2009, has recently been developed and regulated according to current standards and practices and published under the name LEED v4.

The LEED system is a long process, starting from the design process and continuing until the completion of the building. In this process, issues that concern more than one discipline are included. The LEED system has categories under development suitable for different building types. These are as follows;

- Building Design and Construction
 - ✓ New Buildings
 - ✓ Core & Shell
 - ✓ Schools
 - ✓ Stores (Retail)
 - ✓ Hospitals and Clinics (Healthcare)
 - ✓ Data Centres
 - ✓ Accommodation Centers (Hospitality)
 - ✓ Warehouses & Distribution
- Commercial Interiors

- Existing Buildings: Operation & Maintenance
- Detached Houses
- Neighbourhood Development

The LEED v4 system examines and evaluates buildings under the following 9 subheadings:

1. Integrated Process
2. Location and Transportation
3. Sustainable Land
4. Water Efficiency
5. Energy and Atmosphere
6. Materials and Resources
7. Indoor Life Quality
8. Innovation
9. Order of Local Importance

There are prerequisites and credit definitions under each sub-heading. First of all, compliance with the prerequisites should be ensured, and then the points allowed by each loan should be targeted, which is compatible with the sustainable practices of the project. The project is awarded at the Certified, Silver, Gold or Platinum level according to the scores it provides in these sub-titles.

According to the sum of the points received, the certification levels are as follows:

Certified: 40-49 points

Silver: 50-59 points

Gold: 60-79 points

Platinum: 80-110 points

Developed and arranged according to current standards and practices and designed in accordance with these criteria in the new LEED version published under the name LEED v4, **MASS Konfeksiyon** has entered the LEED v4 Platinum Certificate candidacy process as one of the few projects in the world. In this context, many environmentally and human-friendly features have been integrated into the project design and construction.

MASS Konfeksiyon reduces the negative effects of construction on the environment by complying with LEED criteria in the design and construction of the project. In addition, thanks to the strategies and systems used, the operating costs that will occur during the operation of the buildings will be reduced. While the comfort of building users will be increased, energy and water savings will be achieved and expenses will be reduced.

Some of the sustainable strategies and solutions implemented in the **MASS Konfeksiyon** project within the scope of the LEED System are as follows;

INTEGRATED PROCESS

- Preliminary efficiency analyzes were carried out in the early stages of the project together with the project managers regarding the use of Water and Energy resources, and the project design was guided according to these analyzes.

LOCATION AND TRANSPORTATION

- A land within walking distance of environmental facilities such as parks, banks, cafes, DIY stores, supermarkets and public transportation facilities that will meet daily needs has been selected as the project land.
- Electricity charging stations for environmentally friendly electric vehicles will be placed in the parking lots to provide infrastructure for electric vehicle use.

SUSTAINABLE LAND

- The project was handled with the principle of creating a healthy and ecological living environment, and in order not to cause a heat island effect in the region, light colors were given importance in the surface finishing material selection, green areas were used and solar panels were evaluated. Planting in the project land has been done in types suitable for the climate and soil structure of the region.
- Rainwater is collected from the roof and other hard floor areas in the project. In addition, the amount of rain water that will enter the network in a sudden rain is reduced by using highly permeable ground material in some of the green areas and hard floors in the landscape.
- In the project, the amount of open space was provided with the human-oriented inner garden area and landscaping areas.

WATER EFFICIENCY

- By using efficient and comfortable water armatures in the building, water efficiency at international standards has been provided without compromising user comfort.
- In the project, rain water is collected from the roof and other hard floors and this stored water is used for landscape irrigation.

ENERGY EFFICIENCY

- All energy-consuming systems in the building have been inspected in accordance with international activation and testing procedures specified by LEED. The systems that are inspected to operate in accordance with the targeted performance criteria during both assembly and use will thus not only provide the desired performance and comfort level, but also minimize unnecessary energy consumption and thus operational costs.
- Energy efficiency was given importance in all service systems used within the scope of the project. American energy efficiency standard (ASHRAE 90.1.2010) requirements are prioritized in the design

and selection of lighting fixtures, heating, cooling, ventilation and lighting - mechanical automation. The energy consumption of building systems designed in accordance with international standards will be evaluated over the efficiency of the selected devices, and possible inefficiencies will be determined and corrected at the design stage, and optimum solutions in energy efficiency will be provided. In this way, expenses will be minimized without compromising comfort.

- Energy consumption of all kinds of systems in the building will be monitored through energy analyzers, calorimeters and the building energy monitoring system connected to them. In this way, problems and inefficiencies that may occur during operation can be detected immediately.
- With the PV (Solar Energy) systems applied to the roof of the building, approximately 20% of the annual energy consumption of the building is expected to be met. With this application, clean energy production has been achieved by reducing the load of the building on the grid.

MATERIALS and RESOURCES

- Sustainable and environmentally friendly construction materials used in the building were primarily preferred.
- Floor-based recycling points and solid waste stations are reestablished in the project.
- A large part of the waste generated during the construction of the building was sent for recycling and/or reuse, reducing the amount going to the landfill significantly. In this context, all domestic wastes and recyclable wastes generated during the construction process were regularly monitored.
- Within the scope of the project, 20 different material items with EPD (Environmental Product Declaration) certificate were obtained from 5 different manufacturers. In this way, the use of products that are environmentally and economically preferable and that measure the environmental impacts of the production process are encouraged.
- In the construction of the building, more than 30% of the cost was selected from products obtained by leading raw material extraction methods (recycled content, local content, waste take-back program, etc.) and with sustainability certificates.
- Life Cycle Analysis was carried out with the materials and construction techniques used in the building, and it was observed that the effect of global warming could be reduced thanks to the use of products with high environmental performance.

INTERIOR QUALITY AND USER COMFORT

- The comfort and health of the building users and the people who will live in them are among the main elements that the LEED system evaluates. In this context, while deciding on the construction chemicals (paint, primer, adhesive, putty, etc.) applied to indoors during the construction of the building, attention was paid to ensure that the VOC (volatile organic harmful compound) ratios in its content comply with international limits.
- It has the necessary designed project in accordance with the ASHRAE 62.1.2010 standard for the integrated systems of interior spaces. The fresh air rates given to the buildings are kept above the

ASHRAE 62.1.2010 standard, and it is foreseen that the building users will live in a healthy and comfortable environment.

- During construction, the issues such as the protection of the completed parts of the building, the materials stored for use, the ventilation ducts and taking measures for the general cleaning of the construction were followed throughout the process and preventions were taken.
- The interior design was made in accordance with ASHRAE 55 quality. Controls for heating and equipment design, production design are targeted.
- In the building design, regarding the frequently used areas, the access of the residents to daylight and the view has been taken into account while locating the indoors.