



**VESTADEZH**

Engineering & Manufacturing

**Solar System**

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## Introduction

Nowadays, important issues in the field of energy supply are the decreasing trend of non-renewable resources, production costs, and environmental problems of these resources. Most of the countries use clean and renewable energy to solve these problems and most countries use clean and renewable energy to solve these problems.

Among renewable resources, solar energy is more popular due to its easy access and ease of conversion into electrical energy, so that in addition the use of solar energy to providing energy for domestic use, they are used to sell to electricity companies.

There are several countries that they use solar energy as one of the main resources of energy supply. These countries have made significant plans for solar energy in the future, and they can potentially see significant growth in the production of clean and cheap energy. Therefore, the use of this type of energy resource will gradually replace other traditional energy resources. Some countries are in a great position to receive solar energy. Because of this capacity, the need for investment in these regions has considerably increased.

## About us

Vestadezh Company was established in 2015 with the aim of modern production in the construction and energy industry by using the latest science and expertise and started to produce new installation supports for the first time in Iran. Vestadezh is able to carry out large-scale projects in the field of solar energy by utilizing its most advanced technology, equipment, and creative and experienced specialists to develop solar systems.

Now, the renewable energy unit of Vestadezh is able to design, produce and supply various types of structures to support solar panels, including domestic and industrial systems, street lights, solar water pumps, etc.

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## Standards for products design and manufacturing

Vestadezh profiles and their connections are made of ST37 galvanized sheet and after manufacturing, they are coated with hot galvanized according to the ASTM A123 standard, so that the structure has a high level of strength and resistance against environmental conditions and corrosion.

Vestadezh company manufactures its products in accordance with the authentic standards including DIN, ASTM, and ISO.

The design of cold-rolled steel structures and sections is carried out in accordance with the standards and regulations of the American Steel and Iron Institute in the renewable energy unit of Vestadezh company. All the design outputs are classified and controlled according to these standards.

This unit uses the latest version of SAP2000 software, in order to analyze and design the solar structures and its connections parts.

Csi SAP software is one of the most popular structural software among companies and engineers.

This software is used in various fields such as analysis and design of structures of renewable energy systems and it provides the possibility of the structures modeling and loading under a different condition with the most exact results.







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## Vestadezh solar panel structures

Solar panel structures are used to support the panel at a suitable height from the ground. Each solar panel must be positioned at a certain angle proportionate to the geographic coordinate system in order to work with maximum efficiency; however, this angle varies at different times of the year and should be decided according to the type of system. Also, the structure is designed to withstand the weight of the panel, wind force, snow, and earthquake.

Vestadezh Company manufactures punched steel profiles(Strut Channel) in different sizes with their connecting parts to install solar panels. These profiles and parts are made of St-37 with hot-dip galvanized coating to protect against corrosion.

### Benefits:

- Proper weight and high quality
- High resistance against corrosion
- High accuracy in detail and well appearance
- Easy and fast installation
- Advance engineering services

### Properties:

- Structural material: Steel profiles with galvanized coating
  - Surface finish: Hot galvanized
  - Maximum wind load: 120 km/h
  - Maximum snow load: 150 kg/m<sup>2</sup>
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## Vestadezh products for use in solar panel structures

Vestadezh Products that are used in solar panel structures are classified into two categories. This classification includes a light system and medium system according to different variables such as project location, regional conditions, type of solar panel, etc.

### Light system



### Medium system



## Other products

Mechanical Anchors are one of the best solutions for fixing solar structures bases on the roofs or other ground. These products play a significant role in fastening and strengthening the foundation of solar panel structures.



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