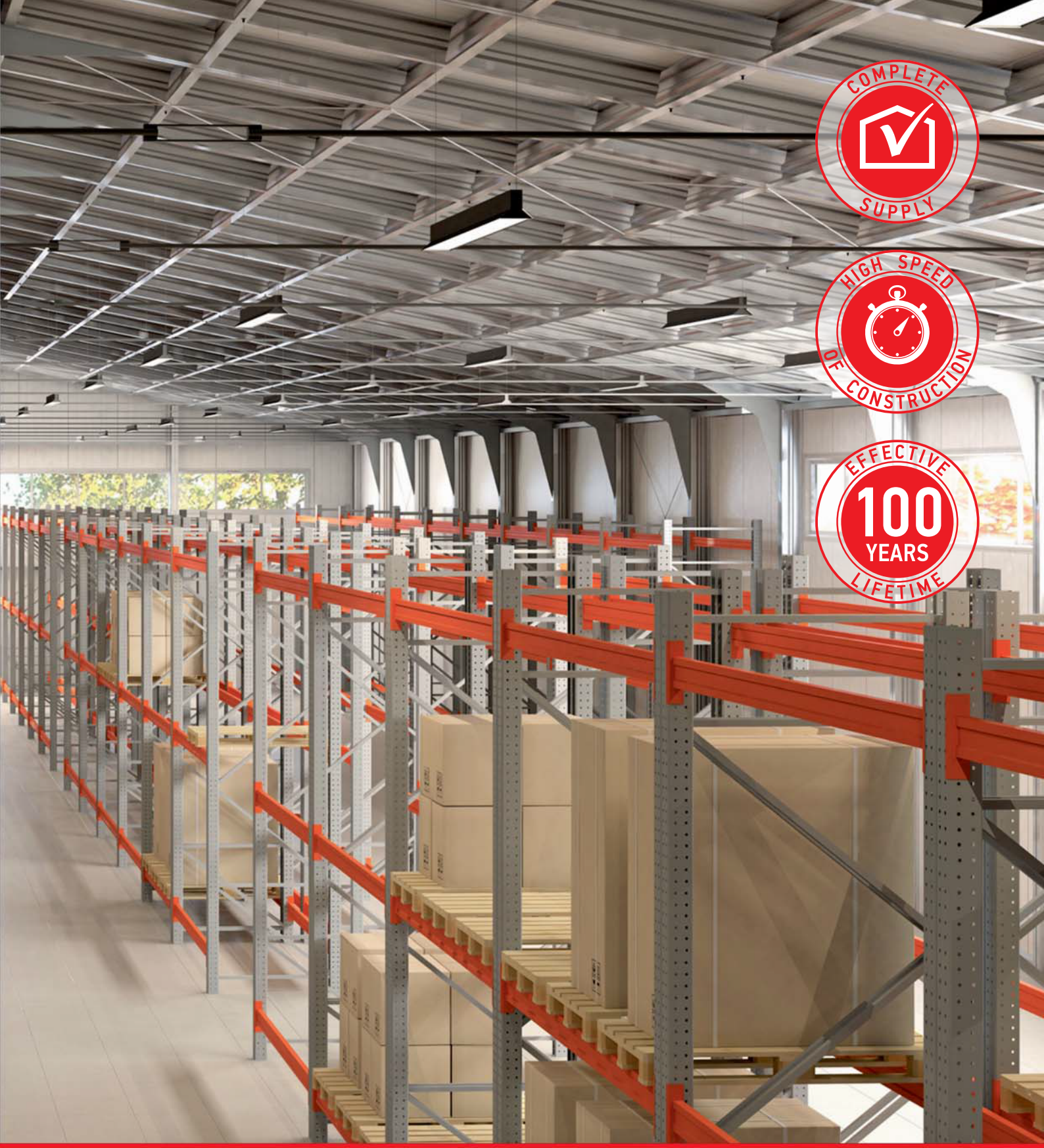


PREFABRICATED BUILDINGS

RAUTA
RELIABLE SOLUTIONS

Ruukki Construction is one of the leading European suppliers of metal components, systems and complete solutions for construction and mechanical engineering.
Our specialists are ready to support your every idea and secure building design from draft to working documentation or complete only working stage of production if your order is unique.
Solutions offered by Ruukki are not only attractive to our partners and customers. All materials used during production are certified and safe for human health and environment. By choosing our solutions when constructing you select excellent quality level, environmental friendliness, energy efficiency, safety and reliability.

Spider® buildings consist of:

Framework

Extra light structures

A Spider® system building framework consists of several Σ-shaped and C-shaped thin-walled components. Flat elements with prefabricated holes are used to connect these components. The elements are fastened with galvanized bolts and self-tapping screws. Thin-walled components ensure minimal weight of the structure together with unique strength and reliability of the supporting framework. Test data prove the design characteristics of the structures.

Quick delivery

As Spider® buildings are characterized with elaborated design and high manufacturability, Ruukki prefabricates main components and store them at its finished product stock area. Therefore, when you place an order, the only task left to our assistants is to compile a bill of materials and to batch your lot; providing we are short of some elements and details, they will be produced as soon as possible.

Corrosion prevention

Galvanized steel framework components along with special coating PURAL-FARM designed to protect sandwich panels against aggressive environment ensure high corrosion resistance, so it is possible to operate Spider® buildings under different hostile conditions.
Spider® buildings are certified in compliance with the food industry hygiene requirements and ensure perfect protection against bacteria, viruses, fungi, small rodents, etc.

Low transportation costs

Σ-shaped and C-shaped elements of Spider® system are designed to ensure the most efficient packing of the components. Thus, a single motor vehicle with a 12-m trailer is required to transport a building of 540 m² (effective area)

Quick and easy assembly

Spider® buildings represent an erector set. Their parts are bolted together and do not need welding. No heavy lifting machinery is required to assemble a building. Some buildings can be assembled without any cranes. Due to their light weight, it is possible to install Spider® buildings at isolated footings, or even at a concrete pad; therefore, earthwork expenses are significantly lower. The components are lighter than traditional welded or hot-rolled profile steel structures, not to speak of usual construction technologies such as bricks and reinforced concrete. Prefabricated and ready-to-use components can be assembled on-site and do not require any field changes. A team of 10 employees can assemble a building of 2,000-3,000 m2 (effective area) within 20–30 days. The whole period between the contract date and delivery date of steel structures and other components is 3–8 weeks.

Complete unit

A basic Spider® configuration includes galvanized and painted profiled steel sheets used to clad the structure. The roof and walls are made of profiled steel sheets, VN-45-900 and VS-18-1100 respectively. A building is insulated with foil-coated mineral wool reinforced with high-tensile synthetic nets. When no heat insulation is required, the framework is plated with outside profiled steel sheets.

Sandwich panels and three-layer wall installation for cladding are options available. We offer various combinations of wall and roof cladding. Besides, the company may design and deliver internal partitions and inner wall protection made of profiled steel sheets. A scope of delivery may also include cellular polycarbonate windows, doors and gates.

Basic modifications of Spider® buildings

Ruukki produces two types of Spider® buildings: truss-structured and framework-structured.

Truss structures

Truss structures are intended for large-span buildings, as they effectively save foundation costs; some specific features of the building (for ex., if a flat false ceiling is required) or high snow loads (V snow zone) also prompt for truss structures. The building design provides for both one-span and multi-span quick-installed buildings. Multi-span buildings are sought-after by customers in need of large areas (manufacturing, logistics, agriculture). Due to truss structures, these buildings are characterized with a low specific amount of metal per structure and, consequently, with a considerably lower cost.

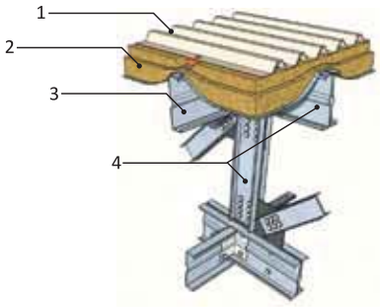
Spider® truss structures are widely used for agricultural facilities, such as poultry houses and pig houses. The assembly element is a plane truss made of galvanized molded sections. A level horizontal bottom chord makes it possible to clad the ceiling with sandwich panels from the inside. As sandwich panel cladding does not include any porous materials, it is easy to clean and it prevents from dust and malignant bacteria accumulation.

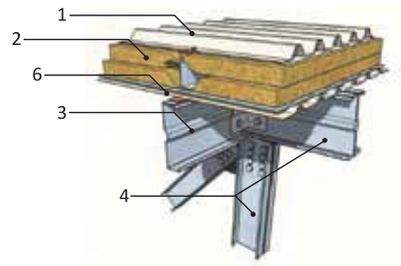
Three-span single-roof building

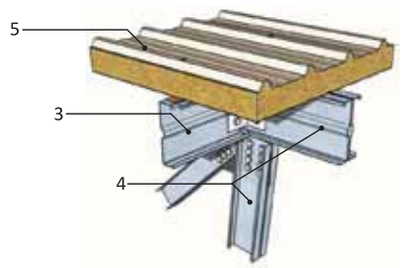
This Spider® design is intended exclusively for poultry production units. For the most part, it is used to accommodate a parent flock and young birds. It contributes to improved heat conservation and sustainable utilization of the available area. A single V-shaped roof is supported with galvanized section columns, though framework elements made of hollow sections are also an option.

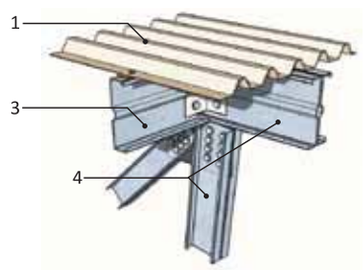
Roof cladding

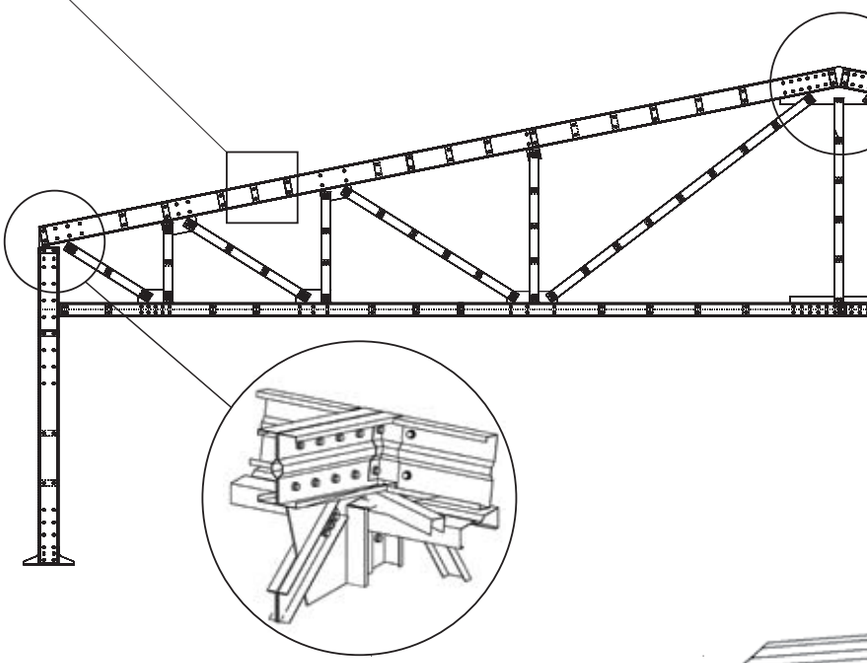
1. Profiled sheets BH-45
2. Insulation covered with foil reinforced with high-strength synthetic threads
3. Roof purlin
4. Load-bearing frame
5. Roof sandwich-panel
6. Profiled sheets BH-18

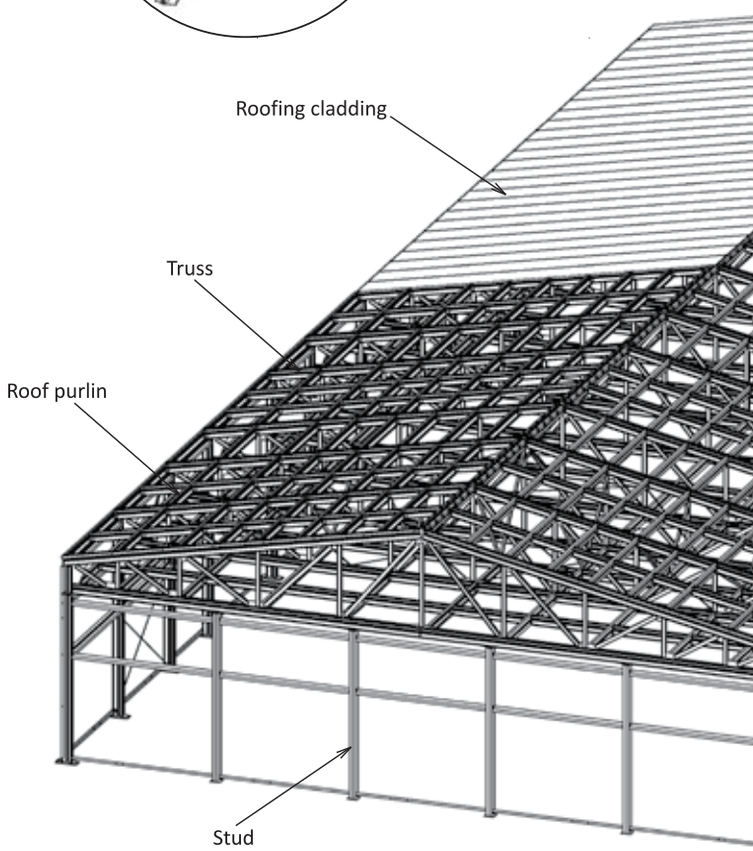


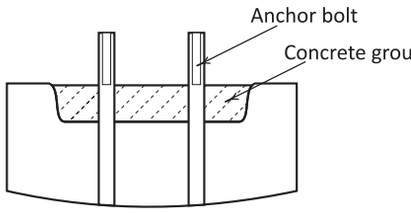






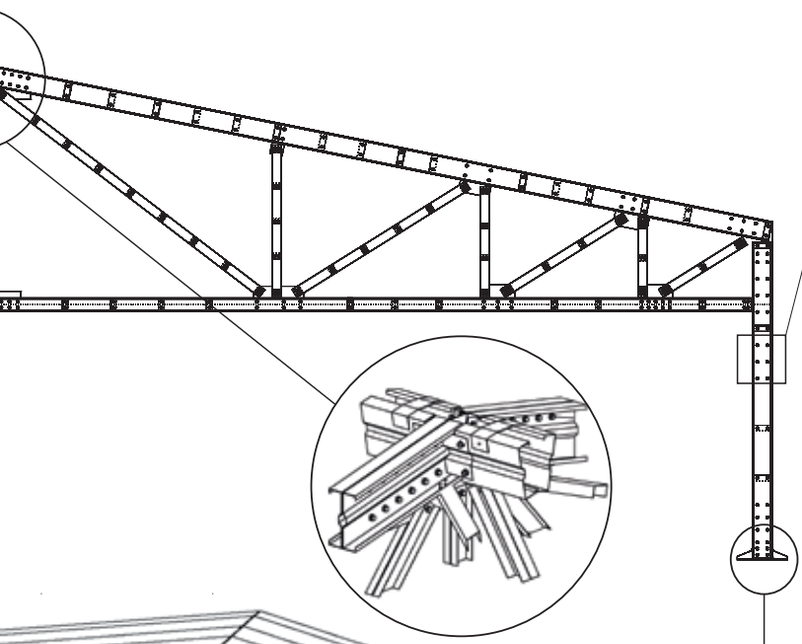


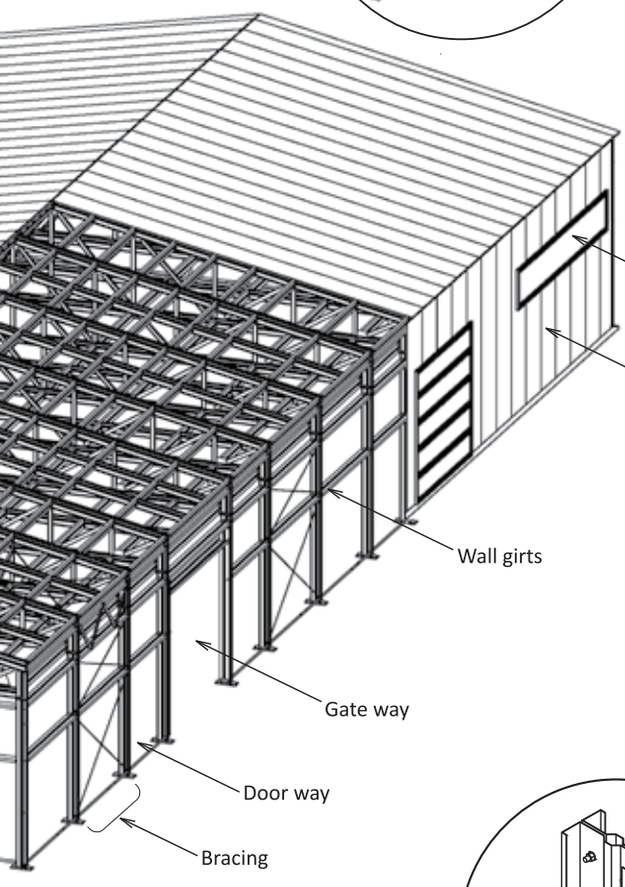


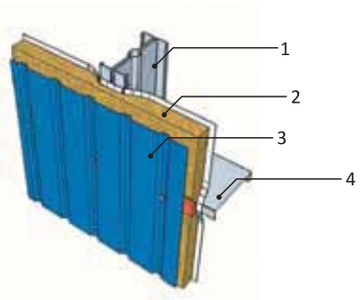


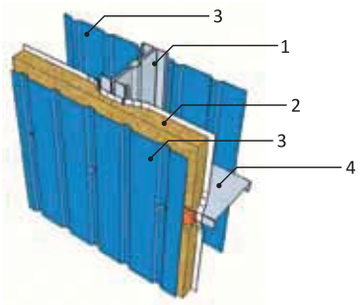
Wall cladding

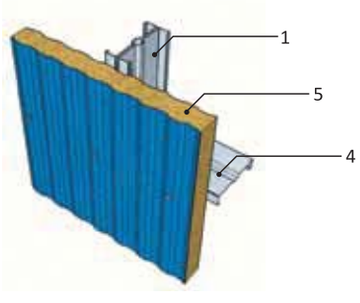
1. Load-bearing frame
2. Insulation covered with foil reinforced with high-strength synthetic threads
3. Profiled sheets BC-18
4. Wall girts
5. Wall sandwich-panel

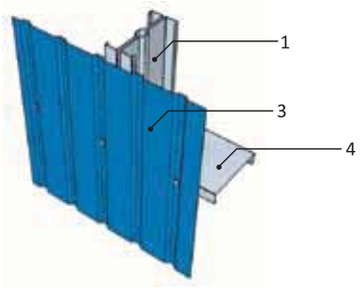


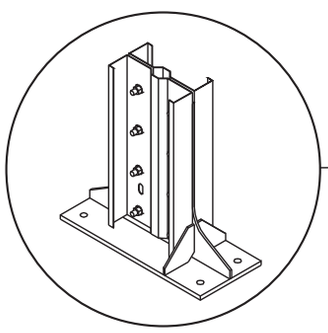








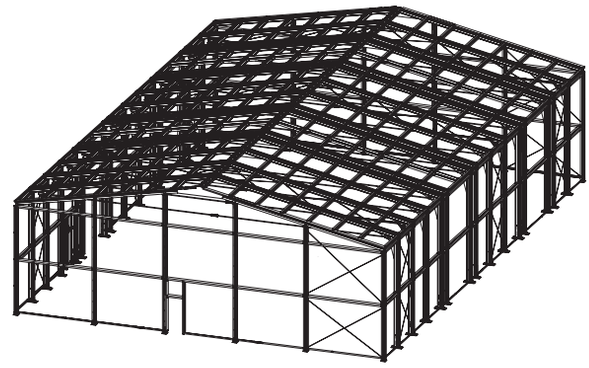




Frame structures

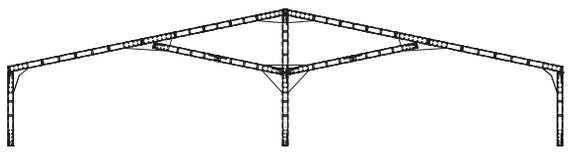
▶ One-span Spider® building (general view)

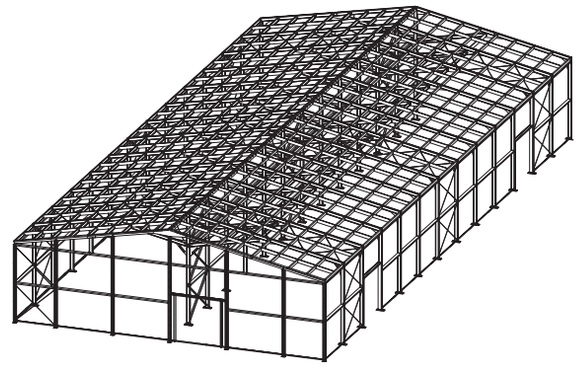
Span width is from 6 m up to 21 m.



▶ Two-span single-roof building

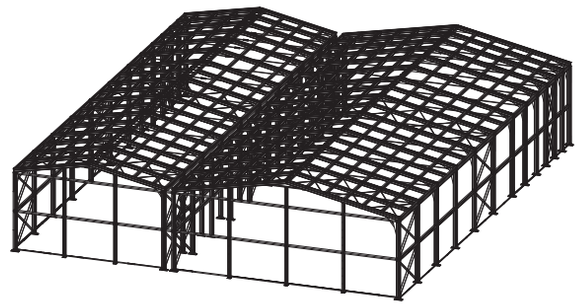
- Span width is 36 m.
- No interior water removal system is required.





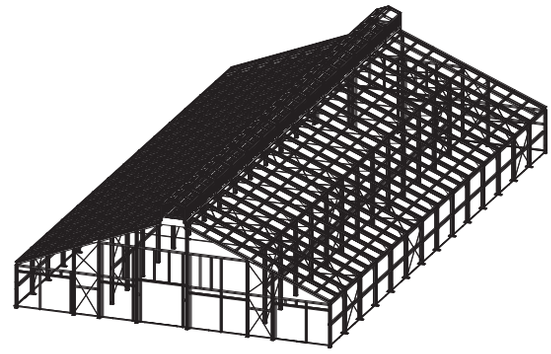
▶ Multi-span buildings

- They are equipped with a controlled water removal system consisting of a specially designed chute.
- Sealed junction:
  - Similar spans, of the same height;
  - Different spans, of the same height.



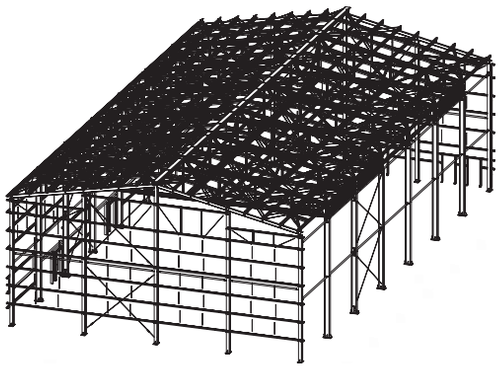
▶ Buildings with roof pitch 40%

- Available building width: 27 m, 28 m, 32.2 m, 35 m, 45 m (three- and five-span buildings).
- This design is intended for cattle stock facilities.
- It’s possible to use the skylights along the ridge which can be equipped with louver shutters.

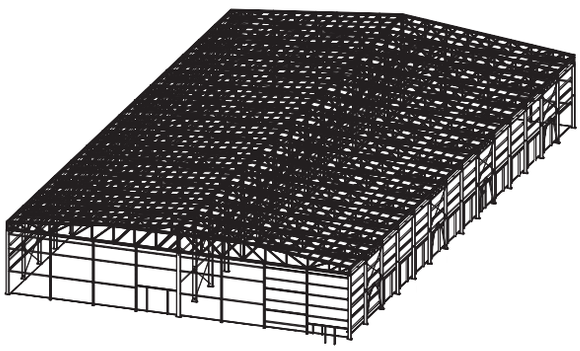


Combined frame buildings

▶ One-span bimetallic buildings



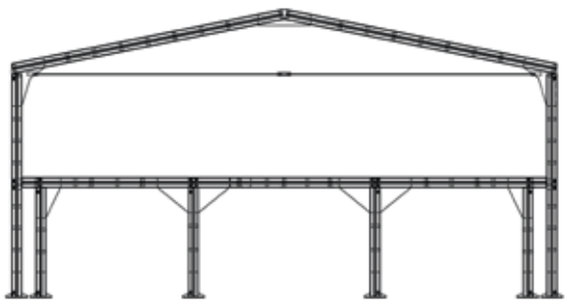
▶ Two-span bimetallic buildings



▶ Two-storied buildings

- The main framework is Spider® building.
- An intermediate floor framework is installed at its supports.
- Scope of application:

- office buildings;
- shopping buildings;
- large construction camps.



Scope of application of Spider® buildings

▶ Storage buildings

Storage complex, Krasnodar region

Building materials storage building, Krasnodar

Storage, Sverdlovsk region

▶ Agricultural complexes

Byre, Khabarovsk region

Agricultural plant, Republic of Belarus

Poultry plant, Naberezhnye Chelny

▶ Automobile showrooms

Auto showroom Toyota, Republic of Kazakhstan

Auto showroom Nissan, Republic of Kazakhstan

Auto showroom Lexus, Republic of Kazakhstan

▶ Industrial buildings

Production center, Sverdlovsk region

Production center, Stavropol krai

Commercial and industrial complex, Krasnodar

▶ Shopping buildings

Shop, Rostov region

Store, Krasnodar

Shop, Rostov region

▶ Sports centers

Sports hall, Pskov region

Sports center, Kurgan region

Vector Business center
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Kyiv, Ukraine 04665

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