Product Selector
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A flexible solution - tailor-made for your needs!

Astron is the leading European supplier of steel buildings solutions, designing and producing all the main components of a steel building - the primary and secondary structures, the roof and wall systems, accessories and thermal insulation systems.

A reliable approach for fast turnkey construction primarily for non-residential buildings such as manufacturing plants, warehouses, commercial, sports centres, offices, transportation, garages and aircraft hangars all over Europe and beyond.

Astron provide almost endless construction possibilities and offer architectural and building personalization.

It allows easy architectural integration of traditional building materials, such as brickwork, glazing, timber or light weight concrete.

HIGH QUALITY STANDARD:

- Produced according to QMS certified to ISO 9001
- Proofed regularly by Bureau Veritas
- High quality standard certified by CE marking
- Compliance with the EN1090-2 standard
- Accordance with EUROCODE
- ETA certification

ADVANTAGES:

- Tailor made buildings to meet each customer requirement
- Best quality/price ratio
- Fixed budget
- Short & fixed timeline
- One-source supply
- Extensive design freedom: flexibility of layouts and building dimensions
A building system for tailor-made buildings

AN ASTRON BUILDING INCLUDES:

- All primary and secondary framing
- Choice of different roof and wall systems
- All fixings and connecting parts
- All sealants for weatherproofing
- Thermal and/or acoustic insulation
- Flashings
- Integrated accessories
- Crane beams and rails
- Mezzanine floors

The Astron building provides for:

- the easy integration of all traditional construction materials such as brickwork, glazing, timber, etc...
- optimisation in accordance with:
  - your requirements,
  - your own particular utilisation,
  - your need of clear space (clear span from 10 m to 100 m without internal columns)
- the addition of canopies:
  - as a direct continuation of the roof line,
  - at lower levels with positive or negative roof slopes.
- the addition of parapets:
  - partially around the building,
  - completely around the building.
- the use of steels with high yield strength which reduce weight, thus optimising the transportation and handling costs whilst meeting all design criteria requirements.
- quality design, manufacturing and erection

All this together ensures a durable building.
The table shows all Astron standard solutions, nevertheless many other variations are possible. Just ask for your individual solution.

<table>
<thead>
<tr>
<th>Building types</th>
<th>Building width m</th>
<th>Roof slope %</th>
<th>Eave height m</th>
<th>Bay spacing m</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZM1 Clear span, pitched roof buildings with tapered columns</td>
<td>15.00 - 30.00</td>
<td>2 - 33</td>
<td>4.20 - 9.00</td>
<td>4.20 - 12.00</td>
</tr>
<tr>
<td>AZM2 Pitched roof buildings with tapered portal frame columns and internal prop columns</td>
<td>18.00 - 30.00</td>
<td>2 - 33</td>
<td>4.20 - 7.20</td>
<td>4.20 - 12.00</td>
</tr>
<tr>
<td>AZM3 Pitched roof buildings with tapered portal frame columns and internal prop columns</td>
<td>27.00 - 72.00</td>
<td>2 - 33</td>
<td>4.20 - 9.00</td>
<td></td>
</tr>
<tr>
<td>AP Wing unit structure to be attached to a main building. Special slim parallel flange columns allow for flush inside walls</td>
<td>3.00 - 15.00</td>
<td>2 - 33</td>
<td>3.00 - 6.60</td>
<td>5.00 - 12.00</td>
</tr>
<tr>
<td>AL Clear span, single slope buildings with parallel flange columns</td>
<td>6.00 - 12.00</td>
<td>2 - 10</td>
<td>3.00 - 6.60</td>
<td></td>
</tr>
<tr>
<td>AE Clear span, pitched roof buildings with parallel flange columns</td>
<td>10.00 - 20.00</td>
<td>2 - 33</td>
<td>3.00 - 6.60</td>
<td></td>
</tr>
<tr>
<td>AS Clear span, pitched roof buildings for large and very large spans. Tapered columns</td>
<td>42.00 - 72.00</td>
<td>20</td>
<td>5.40 - 9.00</td>
<td></td>
</tr>
<tr>
<td>AT Tennis buildings conforming to national regulations available with a standard pitched roof or a polygon roof</td>
<td>variable</td>
<td>33</td>
<td>4.20</td>
<td>variable</td>
</tr>
</tbody>
</table>
Steel structure / Single-Storey Buildings

The structure consists of columns and rafters made of welded or hot-rolled profiles, purlins and rails of cold-formed galvanized profiles.

**PRIMARY FRAMING:**
Primary framing consists of all the structural elements which transfer loads to the foundations.

Main frames consist of built-up welded primary framing members, including flange bracings, connection bolts and anchor bolts.

The bases of the intermediate frames are generally pinned, however, certain circumstances may dictate the use of fixed constructions.

**Protection:**
- All profiles are shot blasted to SA 2.5
- To afford protection during transportation and erection, all profiles receive a primer coat of 80 microns thickness, in either blue or grey.
- Optionally, corrosion protection paint can be provided, with a thickness of 100 microns.

**SECONDARY FRAMING:**
Secondary framing consists of the elements which support the roof and wall sheeting and which transfer loads to the primary framing:
- Roof purlins
- Wall girts
- Framings of openings

Purlins and girts are galvanized Z profiles, produced by cold roll forming.
- Connections are made using galvanized bolts
- Framing of openings essentially consist of cold-formed L, C, U or Z galvanized profiles.

**ADVANTAGES:**
- Aesthetic profile
- Optimum clear space
- Easy adaptation of the building in case of modification or change of building use
- Fast and easy erection
- Purlins are cable trays
- Secondary framing galvanized as standard
Short construction period, Pre-engineered solutions, Nice inside view

Large free span for optimum utilisation of the available floor - Flexibility of use: to extend-, or to change the use of the building or to incorporate new installation
The structure consists of columns, beams and stabilization elements. Beams and columns are made of hot-rolled or welded profiles, purlins and rails of cold-formed, galvanized profiles.

**STEEL STRUCTURE:**
Columns are fixed to the foundations by anchor bolts embedded in the concrete. Construction elements are connected to each other with galvanized, high-tensile steel bolts. All welded and hot-rolled construction elements are shot-blasted according to SA 2.5 and have an 80 micron primer coating in either blue or grey. Optionally, elements can be supplied hot-dip galvanized.

The design based on a 3 dimensional approach allows various structure options using narrow columns to meet customer requirements and optimize costs.

**INODEK FLOOR BEAMS:**
The floor elements are laid on INODEK beams connected to the columns by butt plates.

**STABILIZING ELEMENTS:**
The diaphragm effect of the floor elements, as well as the wind bracing in the roof ensure the horizontal stability of the building.

Depending largely on the arrangement of the façade, but also on the building use, vertical stability is provided by additional elements, combined under specific conditions; these may be:

- Cross bracing (the basic option, low cost and highly effective)
- A stabilization frame, which allows greater flexibility in the installation of doors and windows
- Concrete walls or concrete cores such as lift wells or staircases

**ADVANTAGES:**

- Few and narrow columns, therefore wide, empty floor spaces
- Low building height due to integrated beams
- 3D design for an optimised conception
- Quick and simple erection thanks to bolted connections

Discover this multi-storey building shown on the right page
Integrated floor system (no protruding beams). Easy and low-cost installation of heating and ventilation systems.

Slim structure - Fast and easy erection - Reduced floor depths and overall height of the building.
**TECHNICAL SPECIFICATIONS:**
- Consists of 600mm wide roll formed panels with a 70mm high corrugation
- The panel is fixed with a clip allowing linear and lateral expansion and contraction
- The flat side of the panel contains cross flutes improving the panel rigidity under foot traffic
- The panels are produced in 0.66mm nominal thickness Aluzinc coated high tensile strength steel
- Standing seam

**COLOURS AND COATINGS:**
- Aluzinc AZA (metallic coating)

**ACCESSORIES:**
In order to maintain the watertightness integrity and aesthetic appearance, a full range of accessories adapted to LMR600 roof systems have been developed:
- Skylights
- Smoke vents
- Ventilators
- Polycarbonate vaults
- Roof curbs
- Monovent

**ADVANTAGES:**
- The clip allows free expansion and contraction, thus avoiding any stress in the roof system
- Long-lasting, ultimate moisturetightness
- Side lap formed on site with a special seaming machine, crimping a 360° double-lock seam
- The panel is connected to the secondary structure with a special clip and roll formed on its top into the seam
- Once seamed the entire roof forms a monolithic metal membrane
- Thermal bridges reduced to spacing clips

See the LMR600 with all its features
SINGLE SKIN ROOF WITH OR WITHOUT ISOBLOC:
- This system is the most cost-effective
- The insulation is made of soft faced glass fiber providing good acoustical comfort
- It is available with Isobloc and increased insulation thickness to improve overall thermal performance and reduction of thermal bridges

<table>
<thead>
<tr>
<th>Insulation (mm)</th>
<th>60+</th>
<th>80+</th>
<th>100+</th>
<th>120+</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-value W/(m²·K)*</td>
<td>0.67</td>
<td>0.57</td>
<td>0.51</td>
<td>0.50</td>
</tr>
</tbody>
</table>

* The U-values are guaranteed for an installed product when the nominal thickness of the insulation is maintained in the middle of a purlin spacing of 1500mm or more.

SINGLE SKIN ROOF WITH BRIDGE:
- This system offers superior thermal efficiency and advanced condensation control by reducing the thermal bridge to a minimum. It also prevents the insulation being compressed at the location of the secondary framing elements
- It increases insulation thickness through spacer bridge

<table>
<thead>
<tr>
<th>Insulation (mm)</th>
<th>140</th>
<th>160</th>
<th>200</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-value W/(m²·K)*</td>
<td>0.29</td>
<td>0.27</td>
<td>0.25</td>
</tr>
</tbody>
</table>

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DOUBLE SKIN ROOF:
- It offers the best possible insulation up to 260mm
- It includes all the advantages of the bridge solution
- It has a solid and aesthetic appearance thanks to the internal panel that acts as vapour barrier, best fire rating
- Optional acoustic panel for increased noise absorption
- Excellent solution for buildings with a high relative humidity inside

<table>
<thead>
<tr>
<th>Insulation (mm)</th>
<th>120</th>
<th>140</th>
<th>160</th>
<th>200</th>
<th>260</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-value W/(m²·K)</td>
<td>0.33</td>
<td>0.29</td>
<td>0.25</td>
<td>0.20</td>
<td>0.17</td>
</tr>
</tbody>
</table>
TECHNICAL SPECIFICATIONS:
- Long span ribbed panel: coverage width 1000mm
- 0.50mm core thickness, high tensile strength steel – S550
- Fixed to the structure with self-drilling stainless steel screws

COLOURS AND COATINGS:
- Exterior coating: Aluzinc (AZA) or Superpolyester
- The LPR1000 panel can be delivered in any RAL colour.
- Delivery times and costs depend on the amount of steel ordered. For short delivery times, we provide some stock colours, which you can see below:

ACCESSORIES:
In order to maintain the watertightness and aesthetic appearance, a full range of accessories adapted to LPR1000 roof systems have been developed:
- Skylights
- Translucent panels
- Smoke vents
- Ventilators
- Polycarbonate vaults
- Roof curbs
- Monovents

The side lap incorporates 2 key features:
- Overlapping corrugation provides increased stability during the installation.
- Tape sealer

ADVANTAGES:
- An economical and practical solution
- An increase in safety and watertightness thanks to the strength of its fixation
- Attractive and economical
- Easy to install
- Cost-effective energy efficiency
- Long-term performance

Scan to see an attractive building using LPR1000 panels
SINGLE SKIN ROOF WITH OR WITHOUT ISOBLOC:
- This system is the most economical
- The insulation is made of soft faced glass fiber providing a good acoustical comfort
- It is available with Isobloc and increased insulation thickness to improve overall thermal performance and reduction of thermal bridges

<table>
<thead>
<tr>
<th>Insulation (mm)</th>
<th>60</th>
<th>80</th>
<th>80+</th>
<th>100+</th>
<th>120+</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-value W/(m²·K)*</td>
<td>0.94</td>
<td>0.81</td>
<td>0.60</td>
<td>0.49</td>
<td>0.42</td>
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</tbody>
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<tbody>
<tr>
<td>U-value W/(m²·K)*</td>
<td>0.34</td>
<td>0.31</td>
<td>0.29</td>
<td>0.26</td>
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<td>0.21</td>
<td>0.17</td>
</tr>
</tbody>
</table>
Polar roof system

The Polar roof is a complete roof system based on sandwich panels. It includes all the necessary framed openings, fasteners and finishing flashings.

Polar panels consist of two profiled ribbed coated steel panels, produced by cold roll forming, between which CFC-free polyurethane foam is factory injected.

Different insulation thicknesses and panel profiles are available within the Polar roof system. The U-values of the different products are those published by the panel manufacturers.

TECHNICAL SPECIFICATIONS:
• All standard panel thicknesses available.
• Higher thicknesses on demand
• The U-values of the different products are those published by the panel manufacturers.

COLOURS AND COATINGS:
• The Polar roof systems offer different coatings to satisfy the various climatic requirements.
• Exterior coatings and colours are those published by the panel manufacturers.
• Interior coatings: Superpolyester in grey white

ACCESSORIES:
A full range of accessories adapted to the Polar roof system has been developed to ensure optimum watertightness and pleasing aesthetics:
• Skylights
• Translucent panels
• Smoke vents
• Polycarbonate vaults
• Roof curbs

ADVANTAGES:
• High degree of thermal insulation
• Aesthetical interior finish
• Quick erection
• Easy maintenance
• Large range of integrated accessories
• Fixed with stainless steel self drilling screws

Scan to see various wall and roof systems
Spacetec/Multitec built-up roof systems

Both low pitch roof systems consist of ribbed steel panels and allow the application of a built-up roof system. The Spacetec roof system is purlin-free, the panels are directly fixed to the upper flange of the primary framing. The Multitec roof system is fixed onto purlins.

**SPACETEC**
Spacetec does not require secondary framing. Slim, discrete compression tubes are installed on the lower flanges of the rafters to transmit the forces from the wind bracing tie rods. Framed openings are concealed within the depth of the roof panel. The thermal insulation depends on the type of the built-up roof.

**COLOURS AND COATINGS:**
Interior coating: Superpolyester in grey white

**ADVANTAGES:**
- Aesthetically pleasing interior aspect of the building roof: ideal for sports halls, airport buildings, supermarkets, showrooms, etc.
- Low pitch roof creates simple and economical parapets
- Reduced peak height
- Quick and easy erection
- Fully integrated accessories: skylights, smoke vents, polycarbonate vaults, roof curbs

**MULTITEC**
Multitec panel is fixed to the secondary framing by self-drilling screws. The panel overlaps are fastened with stitching screws. The secondary framing is normally Z purlins fixed with a 1.5m purlin spacing to the primary framing. The thermal insulation varies depending on the type of the built-up roof adopted.

**COLOURS AND COATINGS:**
Interior coating: Superpolyester in grey white

**ADVANTAGES:**
- Simple and economical parapets
- Can be used for complex roof shapes
- Economical rain water drainage
- High degree of thermal insulation (depending on the specification of the built-up roof system)
- Reduced peak height
- Fully integrated accessories: skylights, smoke vents, polycarbonate vaults, roof curbs
LPA900 - LPI1200 - LPG1000 wall systems

The LPA900 wall panels consist of ribbed steel panels, externally fixed to the secondary framing with self-drilling screws with composite nylon heads, coloured to match the sheeting.

**LPA 900 WALL SYSTEM:**
- Long span ribbed panel: coverage width 900 mm
- Nominal thickness of 0.49 mm
- High steel quality according to EN 10346

**COLOURS AND COATINGS:**
- Exterior coating: Superpolyester
- The LPA900 panel can be delivered in any RAL colour.
- Delivery times and costs are depend on the amount of steel ordered. For short delivery times, we provide some stock colours, which you can see below:

![Colour swatches](image)

**LPI1200 - LPG1000 INSIDE SHEETING**
Two interior sheeting options are available, LPI1200, and the perforated LPG1000 for a pleasing interior finish and excellent sound absorption. Both panels hide the secondary framing.

- Interior coatings: Superpolyester in grey white

**ADVANTAGES:**
- Economical, functional and durable construction
- Aesthetically pleasing panel with discreet ribbed profile
- Easy replacement of damaged panels
- Simple and quick erection
- High performance coatings
- Large range of integrated accessories
- All flashings and connecting parts available

**ACCESSORIES:**
A full range of accessories adapted to the wall system has been developed to ensure an optimum watertightness and pleasing aesthetics, such as:
- single or double personnel doors,
- translucent panels,
- wall louvres,
- framed openings,
- flashings and trims...
SINGLE SKIN WALL WITH OR WITHOUT ISOBLOC:
- This system is the most economical
- The insulation is made of soft faced glass fiber providing good acoustical comfort
- It is available with Isobloc and increased insulation thickness to improve overall thermal performance and reduction of thermal bridges

<table>
<thead>
<tr>
<th>Insulation (mm)</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>80+</th>
<th>100+</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-value W/(m²·K)*</td>
<td>0.91</td>
<td>0.79</td>
<td>0.61</td>
<td>0.53</td>
<td>0.44</td>
</tr>
</tbody>
</table>

* The U-values are guaranteed for an installed product when the nominal thickness of the insulation is maintained in the middle of a purlin spacing of 1500mm or more.

+= with Isobloc

SINGLE SKIN WALL WITH INSIDE SHEETING:
Inside sheeting (LP1200 or perforated LPG1000) can be fixed internally
- It includes all the advantages of the single skin wall with Isobloc
- The secondary wall framing is not visible offering a better inside view and aesthetic appearance
- In order to meet ultimate insulation requirements a second layer of insulation can be added to reach up to 0.3 W/(m²·K)

ARCTIC WALL:
- This system offers the best possible insulation values
- Good combination with double-skin roof, but also uninsulated LPA900 wall
- Optimized transport: less volume + one source for different products
- Smart erection: building can be closed quicker, no need of cranes
- Nice aesthetic: no girts visible from inside
- Excellent fire resistance

<table>
<thead>
<tr>
<th>Insulation (mm)</th>
<th>240</th>
<th>290</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-value W/(m²·K)</td>
<td>0.210</td>
<td>0.176</td>
</tr>
</tbody>
</table>
Polar wall system

The Polar wall is a complete wall system based on sandwich panels. It includes all the necessary framed openings, fasteners and finishing flashings.

Different insulation thicknesses and panel profiles are available within the Polar wall system. They consist of two profiled ribbed coated steel panels, produced by cold roll forming, between which CFC free polyurethane foam is factory injected. The tongue and groove jointing arrangement ensures watertightness.

TECHNICAL SPECIFICATIONS:
• All standard panel thicknesses available.
• Higher thicknesses on demand
• The U-values of the different products are those published by the panel manufacturers.

COLOURS AND COATINGS:
• The Polar wall systems offer different coatings to satisfy the various climatic requirements.
• Exterior coatings and colours are those published by the panel manufacturers.
• Interior coatings: Superpolyester in grey white

ACCESSORIES:
A range of fully compatible accessories is available for each of the Polar wall systems. They ensure complete watertightness and pleasing aesthetics:
• Single or double personnel doors
• Truck doors
• Window frames
• Framed openings
• Wall louvres
• Flashings and trims

ADVANTAGES:
• High degree of thermal insulation
• Aesthetical exterior and interior finishes
• Easy maintenance
• Quick erection
• Large range of integrated accessories
• Fixed with stainless steel self drilling screws
Mezzanines

Mezzanines are an important feature of many industrial and commercial/retail buildings, both to suit requirements of modern stocking and storage techniques and to maximise the efficiency of machinery layouts and production flows.

Hollow-core concrete solutions:

INODEK SYSTEM:
A floor beam system based on a steel frame which provides the full advantage of slim floor construction, yet avoids the disadvantages of downstanding beams:
• Pre-engineered and prefabricated elements
• Faster construction
• Spans up to 7.5m
• Anti-fire protection easy to achieve, only the lower flange has to be protected
• No downstand beams/no service obstruction

MONODEK SYSTEM:
Beams are designed to accept precast concrete slabs (hollow-core concrete elements).
• Spans between 5 and 9m
• Fast and easy erection
• Economical construction

In-situ concrete solution:

MULTIDEK SYSTEM:
Generally the concrete is cast on metal decking, which can be laid continuously, allowing design optimisation of sections to reduce weight and cost.
• Maximum flexibility for positioning and size of openings, even after completion of the mezzanine design and construction
• Multidek beam spans up to 9m
• Floor beam spacing are usually 3m

ADVANTAGES:
• Single source supply for mezzanine and building
• Integrated design of the mezzanine in the building
• Maximized use of building space
• Reduced construction time: simultaneous erection of mezzanine and the building
• Guaranteed quality by use of precast elements, in steel or in concrete
Astrotherm insulation consists of a fibre glass blanket with a laminated vapour barrier. Isoblocs significantly reduce thermal bridges and Alustrip improves the overall appearance of the insulation joints.

**FIBRE GLASS BLANKET:** Consists of a flexible blanket of high quality fibre glass, based on a thermo-setting synthetic resin with a homogeneous fibre fleece and long fibres, without residual or reused materials.
- Density: 16kg/m³
- Thermal conductivity: 0.037W/(m·K)
- Nominal thicknesses: 40, 60, 80 and 100mm
- Lengths: Factory cut-to-length rolls to suit each project
- Packaging: in perforated polybags and labelled for correct identification on jobsite

**VAPOUR BARRIERS:** Consist of a glass-scrim reinforced film bonded to the fibre glass blanket. The vapour barrier is wider than the actual insulation width, creating overlaps strengthened by a double glass-scrim reinforcement (60mm) for stapling together.

**ERECTION:** Astrotherm insulation is unrolled and stretched over purlins or girts (except in double skin roofs). The longitudinal assembly of layers is achieved by double stapling the two adjacent overlaps thus ensuring the continuation of the vapour barrier.

**ADHESIVE:** The vapour barrier is bonded to the fibre glass blanket with an adhesive, which contains a fire retardant.

**ISOBLOC:** Isoblocs are insulating strips made of extruded polystyrene boards. Isoblocs are located over purlins and girts and significantly reduce thermal bridges.

**ALUSTRIP:** Alustrip is a colour coated strip stretched over purlins and located under the sidelaps of the layers, in order to ease erection and to improve interior aesthetics.

N.B.: delivery of Alustrip is optional.

**ADVANTAGES:**
- Thermal and acoustic insulation
- High insulation values
- Tailor-made supply, minimal waste
- High density fibre glass for long-lasting quality
- Large range of vapour barriers
- Excellent fire classification
- Fast erection

See the production of an Astron building
Astrotherm U-values:

<table>
<thead>
<tr>
<th>Thickness (mm)</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-value W/(m²·K)</td>
<td>0.82</td>
<td>0.57</td>
<td>0.43</td>
<td>0.35</td>
</tr>
</tbody>
</table>

Vapour barrier specifications and EU fire ratings

<table>
<thead>
<tr>
<th>Type</th>
<th>Fire rating according to EN 13501-1</th>
<th>Definition</th>
<th>Specification highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASA</td>
<td>A1</td>
<td>• painted alufoil</td>
<td>• non-combustible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• glass scrim reinforcement</td>
<td>• light grey colour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• aluminium film</td>
<td></td>
</tr>
<tr>
<td>AVS</td>
<td>A2-s1, d0</td>
<td>• painted alufoil</td>
<td>• excellent fire rating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• glass scrim reinforcement</td>
<td>• good appearance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• PVC film</td>
<td>• light grey colour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• good vapour permeability</td>
</tr>
<tr>
<td></td>
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<td>• very good quality/price ratio</td>
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<tr>
<td>KAS</td>
<td>D-s1,d0</td>
<td>• alufoil</td>
<td>• good fire rating</td>
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<tr>
<td></td>
<td></td>
<td>• glass scrim reinforcement</td>
<td>• good vapour permeability</td>
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<td></td>
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<td>• kraft paper</td>
<td>• aluminium colour</td>
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<td>• economical</td>
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Russian certification of fire safety

<table>
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<tr>
<th>Type</th>
<th>Inflammability</th>
<th>Combustibility</th>
<th>Smoke formation</th>
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<tr>
<td>Astrotherm without facing</td>
<td></td>
<td>NG</td>
<td></td>
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<tr>
<td>Astrotherm with facing ASA</td>
<td>V1</td>
<td>G1</td>
<td>D1</td>
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<tr>
<td>Astrotherm with facing AVS + KAS</td>
<td></td>
<td></td>
<td>D2</td>
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</table>

Definitions: (according to ANTIP)
- V1: low flammability
- V3: high flammability
- NG: non-combustible
- G1: low combustibility
- G3: normal combustibility
- D1: low smoke formation
- D2: medium smoke formation
- D3: high smoke formation
STANDARD SUPPLY:
• Beams with rails 50 x 30mm fixed by intermittent welding
• All fixing components, cleats and fasteners
• Standard finish: shot blast SA 2.5 and shop primer 80 microns
• Static calculations and erection drawings

Options:
• Heavy-duty rails
• Laminated rails for easy replacement of the crane rail
• Continuous welding of crane rail to crane beam
• End stop, excluding rubber buffers
• Final paint

CRANE RAIL BEAMS DESIGNED ACCORDING YOUR NEEDS:
• Standard crane capacity: < 15 tons
• Standard crane span: < 25m
• Standard classification:
  - H2, B3 (according to DIN)
  - French group II (following CTICM)
• Span of beam: from 6 to 9m bay spacing, with a limit of 8m for crane capacity above 12.5 tons
• One crane per crane beam, or in case of several cranes, by adding spacers to preserve the design integrity of the beam
• Crane types: I (single girder) and II (double girder)
• Hoisting tool: hook
• Higher classifications or loads on special request.

ADVANTAGES:
• Perfect integration in Astron building
• Optimisation between bay spacing and crane beams span
• Single source supply for crane beams and building
• Integrated design of the crane rail beams in the building
Astron colours

All RAL colours can be delivered. Delivery times and costs depend on the amount of steel ordered. For short delivery times, we provide some stock colours, which you can see below:

**ROOF**
- RAL 7044
- Azinc

**WALL**
- RAL 9010
- RAL 9002
- RAL 7044
- RAL 9006
- RAL 9007

**GUTTER & RAKE**
- RAL 7016
- RAL 6029
- RAL 5010
- RAL 3000
- RAL 1021
- RAL 1003
- RAL 9006
- RAL 9008
- RAL 9007
- RAL 9005
- RAL 9004
- RAL 9003
- RAL 9002
- RAL 9001
- RAL 9000
- RAL 8022
- RAL 8019
- RAL 8018
- RAL 8017
- RAL 8016
- RAL 8015
- RAL 8014
- RAL 8013
- RAL 8012
- RAL 8011
- RAL 8010
- RAL 8009
- RAL 8008
- RAL 8007
- RAL 8006
- RAL 8005
- RAL 8004
- RAL 8003
- RAL 8002
- RAL 8001
- RAL 8000
- RAL 7044
- RAL 7043
- RAL 7042
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- RAL 0008
- RAL 0007
- RAL 0006
- RAL 0005
- RAL 0004
- RAL 0003
- RAL 0002
- RAL 0001
- RAL 0000

Due to printing limitations, the shown colours on this chart are not exact. If a precise match is required, a metallic sample should be requested.
### Astron Buildings • info@astron.biz

<table>
<thead>
<tr>
<th>Country</th>
<th>Address</th>
<th>Phone</th>
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<tbody>
<tr>
<td><strong>Belarus</strong></td>
<td>prosp. Gazety Pravda 11G office No. 3</td>
<td>+375 29 876 70 76</td>
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<tr>
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<td>220116 Minsk</td>
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<tr>
<td><strong>Czech Republic</strong></td>
<td>Kojetinska 3228</td>
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<tr>
<td><strong>France</strong></td>
<td>Parc d'Activité</td>
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<td>55130 Mainz</td>
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