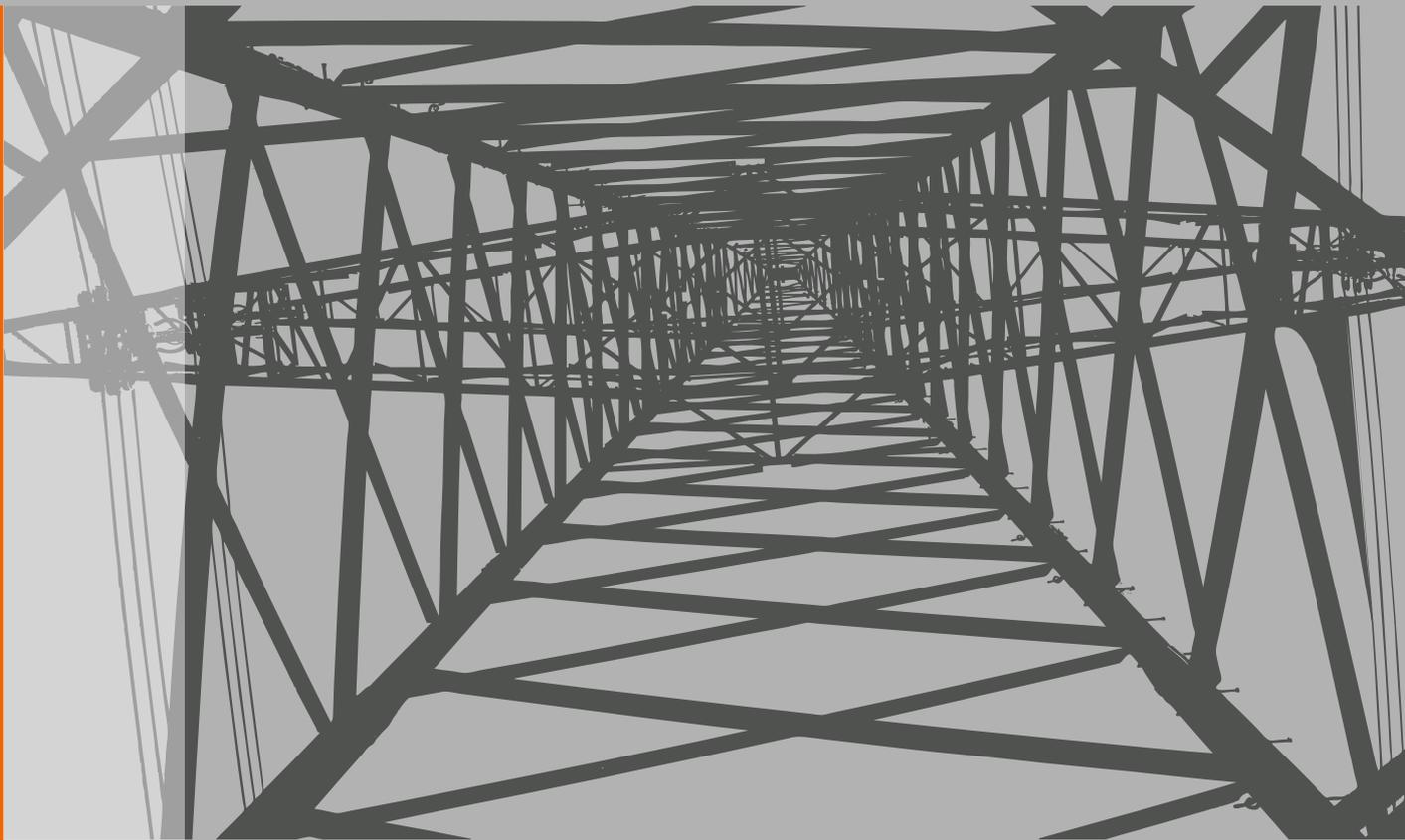


WAYS OF ENERGY



STEEL
STRUCTURES
DIVISION

EGE



EGE is a group of companies assembled in an internationally operating holding company which offers deliveries of special equipment for the power industry all over the world. EGE's global customers benefit from our over 65 years of experience and tradition in quality production, from expert and reliable services, and from our flexibility in meeting customer-specific requirements.

Main spheres of business of EGE, spol. s r.o. are three-fold: lattice towers for transmission & distribution lines, and other steel structures, generator outlets – bus ducts, and special high-voltage electrical technology. EGE provides its own development, design, engineering, manufacture, assembly, and service for all its own products.

To achieve stability and exploit its potential, the Steel Structures Division makes an effort to penetrate markets beyond the power industry, for example it is successful in the manufacture of steel structures for funicular railways and industrial halls.



STEEL STRUCTURES DIVISION

DIVISION ACTIVITIES

The history of lattice towers production at EGE dates back to 1948. The Steel Structures Division offers excellent technical expertise, long-term practical experience and reliable consulting services in the development, manufacture, surface protection, and assembly of steel structures to customers all around the world. We also offer engineering services in accordance with European and American standards.

Steel structures for the power industry:

- Lattice towers for MV, HV, and EHV overhead lines
- Emergency towers /bypasses/
- Main and auxiliary structures for substations
- Support and technological structures for power plants

Other steel structures:

- Antenna masts
- Steel structures for industrial buildings
- Steel structures for ski lifts and cableways:
 - Towers
 - Stations
 - Auxiliary structures
- Custom-made building structures according to customer requirements

SCOPE OF SERVICES

- Engineering – structure designs, including static and dynamic calculations
- Design works and preparation of drawings
- Technical preparation of production
- Manufacturing according to our own or the customer's specifications
- Test assembly
- Surface protection – hot galvanization and paint coating
- Packing and dispatch
- Warranty and post-warranty service

QUALITY MANAGEMENT

Quality is our key concern. Certification pursuant to standards ISO 9001, ISO 14001, and OHSAS 18001 is maintained by demanding audits for the whole scope of EGE activities.

EGE



STEEL STRUCTURES FOR THE POWER INDUSTRY

22 KV LATTICE TOWERS

Lattice welded structures from rolled isosceles angle pieces and U-profiles. The design is based on a combination of welded parts connected together by screw joints. Surface protection of the structure is ensured by paint or hot-dip galvanisation according to EN ISO 1461. The series ranges from 20 to 100 kN in vertex traction and from 12 to 24 m in height. This series and configuration can be extended according to customer requirements.

110 KV LATTICE TOWERS

Steel lattice structures, mostly from rolled isosceles angle pieces in bolted version, or in combination with welded parts. Surface protection by hot-dip galvanisation, paint, or a combination of both – so-called duplex system.

Types of structure acc. to their application:

- Supporting
- Anchoring
- Branching
- Underpassing

Division according to the number of systems:

- 1 × 110 kV
- 2 × 110 kV
- 4 × 110 kV

The towers are usually embedded in block foundations. Type towers can be fitted on pile foundations by means of special foundation parts. For all types, the elevation amounts to three or four metres from the basic height of the towers. Constructions are mostly fitted with one earthing cable bracket. For some types, a variant with two brackets can also be used.



LATTICE TOWERS

220 KV LATTICE TOWERS

Steel lattice structures, mostly from rolled isosceles angle pieces in bolted version with some welded parts. Surface protection by hot-dip galvanisation, paint, or a combination of both – so-called duplex system.

Types of structure acc. to their application:

- Supporting
- Anchoring

Division according to the number of systems:

- 1 × 220 kV
- 2 × 220 kV

400 KV LATTICE TOWERS

Steel lattice structures, mostly from rolled isosceles angle pieces in bolted version or in combination with welded parts. Surface protection of the construction by galvanisation, paint, or a combination of both.

Types of structures acc. to their application:

- Supporting
- Anchoring

Division according to the number of systems:

- 1 × 400 kV
- 2 × 400 kV
- 3 × 400 kV
- 4 × 400 kV

220 kV and 400 kV tower versions can also be combined.



STEEL STRUCTURES FOR THE POWER INDUSTRY

STRUCTURES FOR SUBSTATIONS

Steel structures from rolled sections, welded or bolted, conceptually individually designed for each construction project. Surface protection by hot-dip galvanisation, paint, or a combination of both – so-called duplex system.

EMERGENCY TOWERS /BYPASSES/

The Steel Structures Division offers a wide range of products for emergency towers – bypasses. These are standardised welded parts – usually made of rolled angle pieces – that can be easily joined together by bolted joints like a building kit. Surface protection is ensured by hot-dip galvanisation or paint.

SUPPORT AND TECHNOLOGICAL STRUCTURES FOR POWER PLANTS

Another important part of our product range are special steel structures for the power industry, e.g. platforms under generator switches and steel structures under generator bus ducts of power plants produced for the Busduct Division of EGE.



OTHER STEEL STRUCTURES

ANTENNA MASTS

Steel lattice structures from rolled sections, mostly bolted, or in combination with welded parts. Surface protection consists in hot-dip galvanisation, paint, or duplex system.

STEEL STRUCTURES FOR SKI LIFTS AND CABLEWAYS

Steel lattice structures made mostly of rolled sections delivered in a bolted version or in combination with welded parts. Surface protection of the construction is usually achieved by hot-dip galvanisation. The design and manufacture of these structures are subject to the most demanding quality requirements. The Steel Structures Division has extensive experience in processing these products.

STEEL STRUCTURES FOR INDUSTRIAL BUILDINGS

Constructions of industrial halls designed and produced directly according to the investor's needs. The Steel Structures Division is able to offer comprehensive deliveries, including project design, manufacture, and assembly.

CUSTOM-MADE BUILDING STRUCTURES

Special steel structures, both assembled and welded, are designed and manufactured according to the investor's requirements and needs. As a surface treatment, we offer zinc coating or paint according to the customer's wishes.



ENGINEERING AND TECHNICAL PREPARATION OF PRODUCTION

ENGINEERING AND DESIGN

The Steel Structures Division has its own engineering, design, and technological capacities, including modern technical facilities. We offer engineering services for the calculation, design, and preparation of technical documentation, in particular for the following range of products:

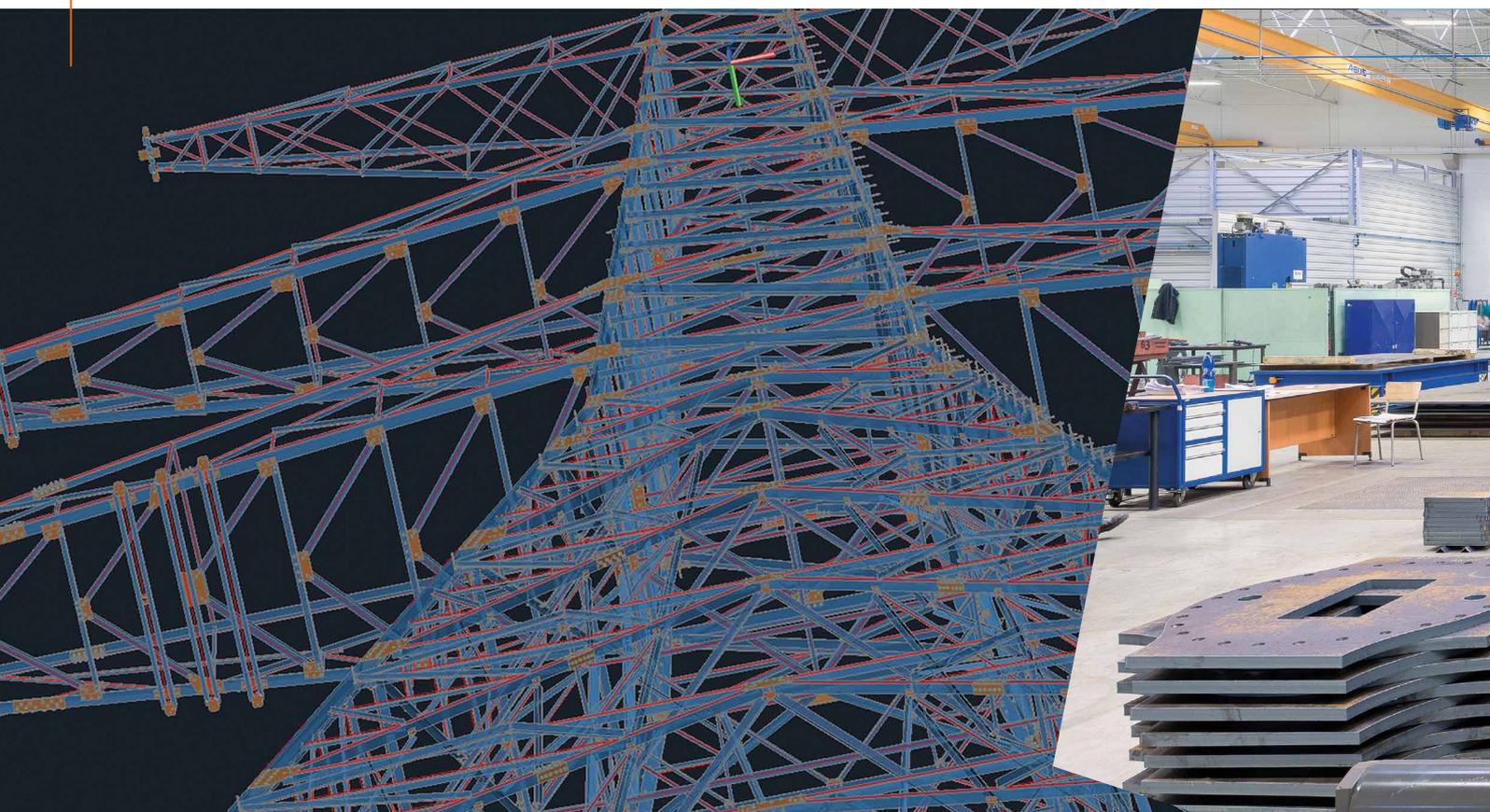
- Tower structures for overhead lines 22 - 400 kV
- Main and auxiliary structures for substations
- Support and technological structures for power plants
- Steel structures for industrial buildings
- Special products made of steel structures /ski lifts, assembly platforms/

APPLICABLE STANDARDS AND REGULATIONS

Design and calculation according to:
EN 1990
EN 1991 /EC1/ + EN 1993 /EC3/
UBC 97, ASCE 7-05 + AISC LRFD,
or AISC ASD

Manufacturing mostly according to:
EN 1090-1, 2
EN ISO 3834.2

Software used:
CAD: AutoCad, Advance Steel
Calculations: SCIA ENGINEER,
IDEA StatiCa



MANUFACTURING

PRODUCTION FACILITIES

EGE has at its disposal one of the most modern manufacturing plants for the production of steel structures in Central Europe.

The production facilities of the Steel Structures Division are located in separate premises with a total area of 49,000 m². This includes production premises with an area of 8,700 m², covered hall of the metallurgical material warehouse, covered hall for palletisation and dispatch, and premises for the performance of test assemblies.

Annual production capacity is approx. 12,000 to 15,000 tons of steel structures depending on the type of manufactured structures. Towers and structures are processed according to EN 1090-2 up to the level of EXC3.

Cutting-edge technologies and innovated machinery correspond to the most demanding requirements for quality in the treatment of materials, compliance with manufacturing operation safety, and protection of the environment.

MATERIALS USED

Structures are made of plain steel, mainly in the quality S355J2 or S235JR.

Joining material is used for joining structural elements. Usually, construction bolts according to DIN 7990 with the strength of 8.8 or 5.6 in combination with nuts according to EN ISO 4032 and EN ISO 4034 are used.



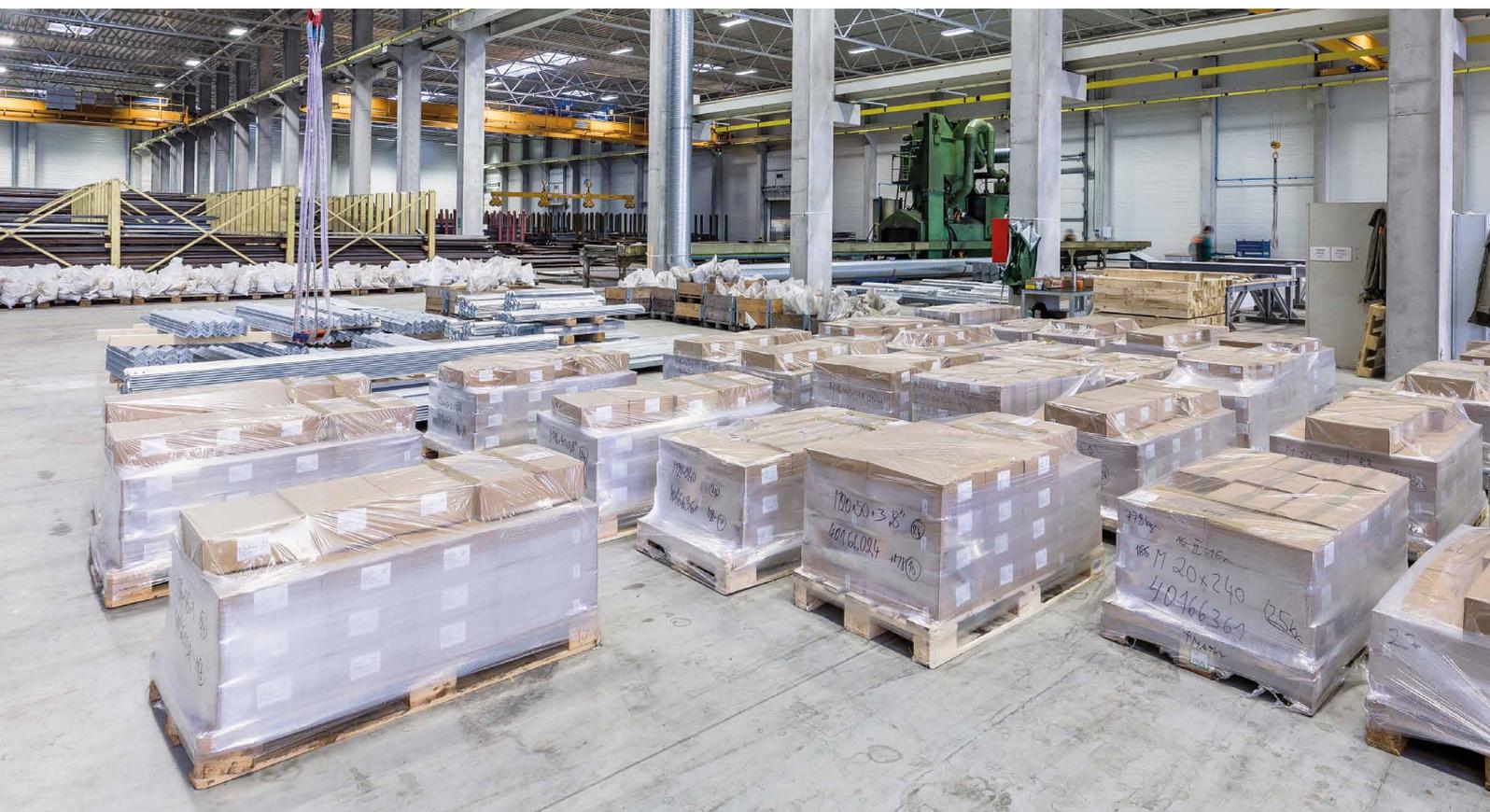
PACKING AND DISPATCH

The jointing material is packed on euro-pallets according to the construction needs. All transport units and jointing materials are carefully marked in accordance with the accompanying documents.

The dispatch area corresponds to the production capacities. On customer request, the division is able to deliver goods to the place of destination in accordance with the Incoterms 2010 conditions in force.

We provide:

- Land transport packing according to assembly lists and packing sheets for domestic and European transport
- Overseas packing for international sea or air transport according to the technical specification of the customers





Manufacturing Plant - Steel Structures
EGE, spol. s r.o.

U Pily 741
370 01 České Budějovice
Czech Republic

Tel.: +420 387 764 522

Fax: +420 387 764 604

E-mail: okoobch@ege.cz

www.ege.cz