



ELV

J A R L S O



Power Transmission

ENERGY

Type: JBM

UTILISATION AREA:

- Suspension tower for Power transmissions line 132 kV and 66 kV

PRODUCT SUMMARY:

- Slim line design with tight area requirements
- Triangular line configuration with low magnetic field.
- Flat packed or pre-erected sections, erection docking system.
- Complete mast concept with prefab foundation

GENERAL INFORMATION:

A lightweight, self-supporting, bolted suspension tower for power transmission lines up to a height of 30 metres. A combination of triangular configuration of lines and a slim line design has become a tower which requires very little ground space. This makes it easy to upgrade old lines from a lower voltage to a higher voltage without requiring additional space.

DESIGN:

The mast has standard square cross sections of different strengths and lengths. This makes it possible to design each type of mast to a minimum of weight yet sufficiently strong. Cross arms according to customer specifications, steel or composite materials. The bottom sections have a regular width of 1250mm and are fitted to a standard prefab foundation system. To verify the design the mast has also been tested in full-scale test.

ENVIRONMENTAL PROTECTION:

The triangular configuration of lines reduces the magnetic field to a minimum. Based on customer specifications the mast can be delivered powder-coated or wet-painted in addition to its hot dip galvanized performance. The steel structure is easy recyclable and of low cost material for final destruction.

TRANSPORTATION:

Each mast will be packed flat in bundles and the smaller parts will be in wood cases which withstand rough handling during transport. On special request, we can deliver pre-erected sections.

ERECTION:

The mast can be erected either section by section or in full length by helicopter or mobile crane. A special docking system for each section makes it easy to erect and fit the sections together. One main leg has holes for step bolts.

QA-DOCUMENTATION:

Documentation can be delivered exclusively according to customer needs and wishes, such as calculation of strength, material, welding and hot-dip galvanizing documentation.

FOUNDATION:

A foundation design will be carried out on request and according to specified soil criteria from the customer. A prefab foundation system for both soil and rock is available, please see data sheet for JBM Foundation.

MATERIAL:

Steel quality: NS-EN 10025-93
Steel grade: S 355J0(main structure)
Steel grade: S 235 JR G2(for accessories)
Bolts and nuts: ISO 898-1/2 quality 8.8

HOT DIP GALVANIZING:

All steel structures must be hot-dip galvanized according to any one of the following international standards: NS,ISO,EN,SIS,DIN,BS and ASTM. On special request, preperation against «white rust» can be done.

CAPACITY:

To classify and optimize each suspension mast for design, information is required on the maximum load acting in each load case on each of the towers in the whole tower trace. On request, a complete line calculation with different load combinations for the whole trace can be done.

An illustration of mast weights based on the following conditions:

Norwegian standard: NEK-Calculation of Mechanical Strength of Overhead Transmissions Lines, NEK 609 (1998)

Length of a span: 250m
Wind load: 30m/s
Ice load: 30 N/m
Grounding line: Feral no. 95 spec.
Phase line: Feral no. 253 Codor
Tower height: From ground level up to 1. st. cross arm

Mast height 18m: 1500kg

Mast height 21m: 1800kg

Mast height 24m: 2050kg

