

## Series CHS

### 30m CHS - Normal

#### Description:

The given tower is designed as an equilateral triangle, with bolted flange connections between CHS sections, composed of legs and bracings made of circular hollow sections. The 30 m CHS mast is built of 5 sections each being 6 m long.

The tower is prepared for installation of a 2 m toppole.

#### Specification:

Total theoretical tower weight = 1930 kg

Leg distance at tower base = 2410 mm

Foundation bolts: 18 x M24

The steel is hot dip galvanized according to DIN/EN ISO 1461.

The design of the lattice tower is according to:

DIN/EN 1993-3-1 – Design of steel structures – Towers, masts and chimneys.

DIN/EN 1991-1-4 – Actions on structures – Wind actions.

Zone	Description	Basic wind speed $v_{bo}$	Terrain category	Bearing capacity ( $A_w$ )
1	Most part of Nordrhein-Westfalen, Hessen, Rhenland-Pfalz, Saarland, Baden-Wurttemberg, Bayern and Thüringen.	22,5 m/s	II	24 m <sup>2</sup>
2	Hamburg, Berlin, Brandenburg, Sachsen-Anhalt, Sachsen and some parts of Schleswig-Holstein Thüringen, Niedersachsen, Mecklenburg-Vorpommern, Bayern and Baden-Wurttemberg.	25 m/s	II	17 m <sup>2</sup>
3	Northern part of Schleswig-Holstein, Bremen and Mecklenburg-Vorpommern.	27,5 m/s	II	12 m <sup>2</sup>
4	Costal part of Schleswig- Holstein and Bremen.	30 m/s	I	5 m <sup>2</sup>

$A_w$  is the maximum total wind drag area incl. shape factor, that can be equally distributed over the top 9 m.

Ladder with hoops from base to top – 0,14 m<sup>2</sup>/m.

The following feeder load is assumed:

0,20 m<sup>2</sup>/m for each operator, (total of 0,60 m<sup>2</sup>/m) distributed on 2 sides.

#### Foundation types:

Normally a traditional Pier & Pad foundation is designed and casted for a CHS tower. Carl C. can assist with the design if required, based on site specific geotechnical specifications.

