

Specify Climatic Conditions.

Climatic conditions where the structure will survive are dictated by the Buyer's Specifications for the towers - Such conditions are generally part of the required Specifications.

Let us consider for our example, Client Specifications that request Climatic Conditions answering to EIA/TIA RS222F Specifications, relatively common in the Telecom market, with a basic wind speed of 33 m/s, 8 mm Radial Ice and Seismic Effect.

VERAUTO - SmLoader - Tower of twenty five meters

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General Data - 25mEng

Tower Cross Section_Norms

Triangular Square Norms for computing Climatic Conditions: EIA RS 222-F

Height of Tower Top relative to average ground level (expressed in meters): 49.000

Climatic Conditions

Basic Wind Speed in m/s. 33.00

Compute Structure with Seismic effects? Yes

Earthquake Multipliers

X Direction 1.30 Y Direction 0.39 Z direction 0.65

Exponent for Wind Speed factor Kz is: 2 / 7

Gust response factor Gh is: 0.65 + 0.60 x (H/10) to the power of 1 / 7

Radial Ice, expressed in millimeters: 8.00

Wind direction relative to one tower face. 0 (in degrees)

Do you want to put a limit to maximum Wind Pressure as allowed in some Norms? No

Height of Tower Top is relative to average Ground Level

Indicate, in degrees Celsius, required Temperature range to consider in calculations: 30

Choice of the Leading Norm

AISC - LRFD 2005 AISC - ASD 2005 NBR.8800 2008 NBR.8800 1986

AISC - LRFD 99/00 AISC - ASD 1989 TIA/EIA 222-G EUROCODE 3

Telebras - 240.410.600 (Padrão) and AISI (Cold Formed Steel) fully compliant.

In the General Data page it will be convenient to click on the Cross Section button (here square) and then go to the drop down menu (top right) and there choose the Climatic Norms EIA RS222-F.

Then, under Basic Wind Speed indicate 33 m/s, Radial Ice 8.00 mm, and Yes for Seismic Effects. Earthquake multipliers are found in the Norms and must be supplied. Now, since the tower is on top of a building we must indicate the height of tower top relative to surrounding ground level.

Wind Speed exponents and gust response are also found in the EIA specifications. A limit to wind pressure on structure is proposed but useless here where wind conditions are mild.

We'll take advantage of this page to indicate the general Norms for calculations. Just click on the button corresponding to the desired option. Here AISC LRFD 2005.

Now click on the small blue gate or arrows to leave the page and all supplied data will be saved.