Calculation of wind and electric charge loads at communication base stations

How do you calculate wind load on an antenna?

The drag coefficientis a key component in calculating wind load on an antenna. Its value varies for each antenna shape and must be determined experimentally or with the aid of Computational Fluid Dynamic (CFD) analysis. If the drag force on an antenna is known,the antenna's drag coefficient can be calculated using the following equation.

What factors are needed to calculate wind load on a telecommunication tower?

Wind load coefficients for telecommunication tower and antenna Tower drag coefficient (C D), antenna drag coefficient (C Dm), and tower-antenna interaction factor (i.e., interference factor) for different wind directions are the most critical factors that are needed to accurately compute the total wind loads exerted on the tower.

Do base station antennas increase wind load?

Base station antennas not only add load to the towers due to their mass,but also in the form of additional dynamic loading caused by the wind. Depending on the aerodynamic efficiency of the antenna,the increased wind load can be significant. Its effects figure prominently in the design of every Andrew base station antenna.

What is wind load based on?

wind load as a function of the length-to-width ratio of the antenna. For wind loads based on win on on Base Station Antenna Standards by NGMN AllianceABOUT KATHREINKathrein is a leading internation l specialist for reliable,high- quality communication technologies.We ar

How to calculate 0 km/h in a wind tunnel?

0 km/h can be obtained through interpolation calculation.Wind load calculation: Test the wind load of the antenna mounted on a pole in the wind tunnel enviro ment,including the front-side and lateral-side wind load. When calculating the wind load on the front side of the antenna,subtract the win

How to calculate wind load?

n pages 13ff.Figure 4: Standard configuration Formula 1Formula 2It is customary to calculate the wind load according to Formula 1 by multiplying the area by th km/hF150km/hA?cA?c = F /1085 N/m2150km/hNm2Formula 3The calculation according to the standard gives res

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