



Necessity for Wind Tunnel Testing in the Tower Industry

With the continuous growth in the wireless industry, there has been a demand to continually upgrade existing tower structures pushing them to their limit while keeping within the TIA and BOCA code requirements.

Based on TIA code requirements, force coefficients (CF) have been developed based on their number of sides and diameter (DP) and vary from a maximum of 1.20 for 8 sided structures, down to 0.65 for 18 sided structures. The TIA code also provides a table to determine the Appurtenance Force Coefficients (CA) for linear appurtenance not considered as structural components such as antennas, antenna mounts and transmission lines. What the TIA does not provide is how to interpret the CF & CA values when structural components (reinforcements) or transmission lines (linear appurtenance) are attached to the outside of the monopoles, effectively changing the wind flow dynamics of the entire structure.