Allowable Charger Size by Design Wind Speed
EV Block Standard

(Y-axis: Allowable Charger Area (sf), X-axis: Design Wind Speed (mph))

Adaptor Plate Connection
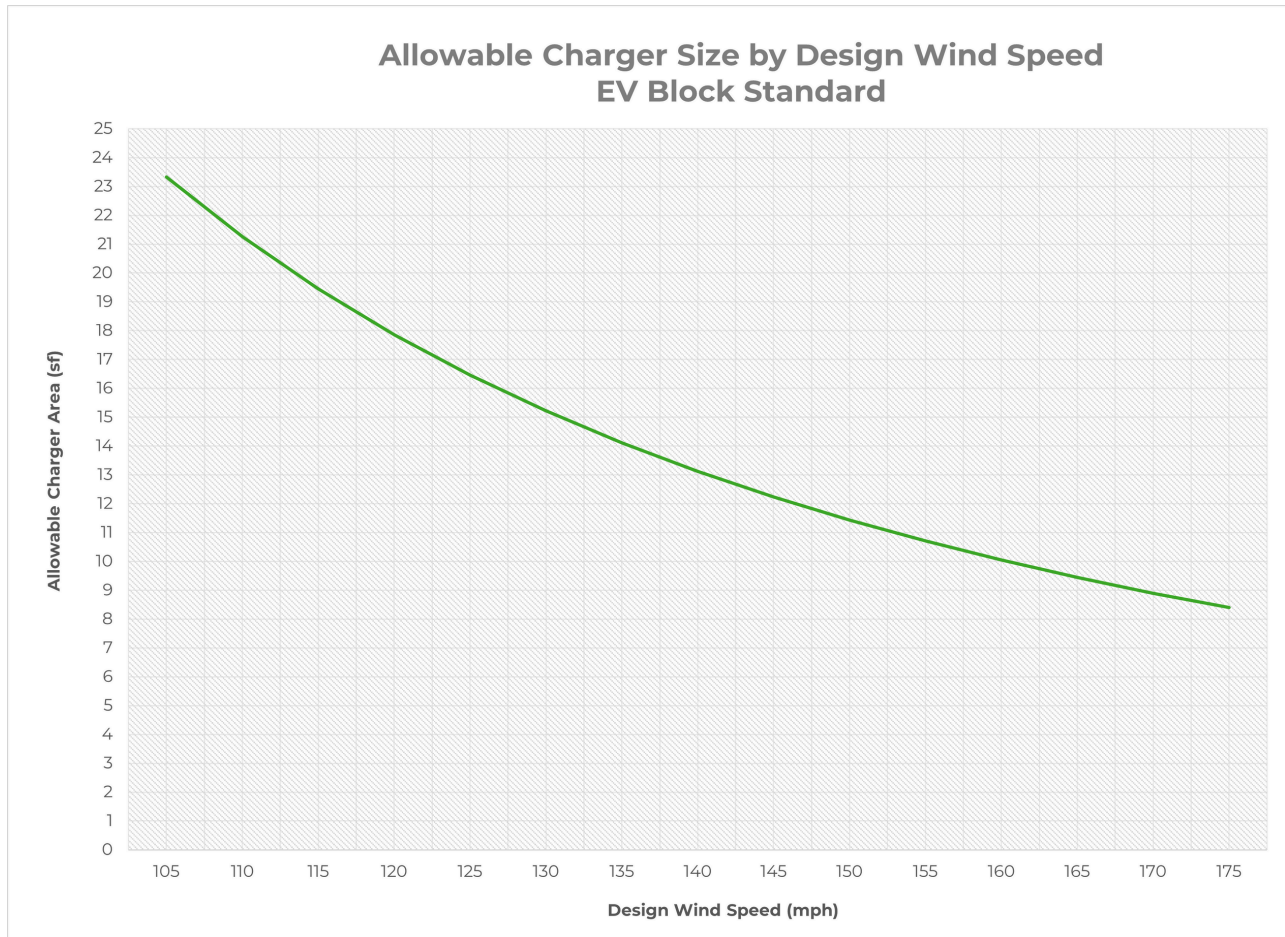
Test #	Load Height (in.)	Max. Load (lb.)
1	30	2,717
2	30	2,637
3	30	2,563
Avg	30	2,639

Average Ultimate Lateral Load, F_{ult} — 2,639 lbs.

Ultimate Moment Capacity, M_u — F_{ult} x Load Height = 6,597.5 ft·lb

Allowable Moment Capacity, M_{all} — $M_u / 3 = 2,199$ ft·lb

Allowable Charger Area, CA_{all}

$$CA_{all} = \frac{\left(\frac{M_{all}}{CH/2}\right)}{0.00256 \, K_z \, K_{zt} \, K_d \, V^2 \, G \, C_f}$$

Where:
CH = 8 ft   (assumed total charger height)
K_z = 0.85   (ASCE 7 Section 29.3.1 - Exposure C)
K_{zt} = 1.0   (ASCE 7 Section 26.8.2)
K_d = 0.95   (ASCE 7 Section 26.6)
V = per graph
G = 0.85   (ASCE 7 Section 26.9)
C_f = 1.2   (ASCE 7 Figure 29.5.1 - very rough rounded)