

PowerMills

Janet,

We've just completed the first run of tests on the new blade design. The data is below, along with the data on our standard blades. (Both blades are the same size.) Can you give me a quick analysis?

1. Plot the data for both blades.
2. As you know, the relationship between the power produced and the speed of the wind should follow this equation:

$$P = kW^3$$

Please find the equation for each blade and the corresponding value of k .

3. For the new blade, what would you predict as the amount of power that would be produced in a 25 mile per hour wind?

wind speed	Power: Old blade	Power: new blade
5 mph	98 watts	113 watts
10 mph	743 watts	855 watts
15 mph	2570 watts	3010 watts
20 mph	6130 watts	7080 watts

Please have this on my desk by the end of the day.

Charlie

CFB