SIPs

SIP No. 2017

Subject: Windspeed vs Pressure

Date: November 2007

R-Control SIP structures can be designed to resist most wind loading conditions. The chart contained in this bulletin can be used as an estimate for wind loading, based upon wind speed.

The formula for approximating pressure is $p=0.00256w^2$ or the constant of 0.00256 times the windspeed squared. The graph presents this formula. It should be noted that the graph is based upon atmospheric pressure of 14.7 psi, a temperature of 60^0F and air which is at 0.0764 lbs/ft^3. Project values will vary with building design, elevation, atmospheric conditions and geographic location.

EXAMPLE:

Windspeed of 135 mph.

$p=0.00256 \cdot (135 \text{ mph})^2$

$p=0.00256 \cdot 18225$

$p=46.6 \text{ lbs/ft}^2$

Information for this bulletin was obtained from Farm Structures, by H.B. Barre L.L. Samett. The graph and formula are to be used for approximating only. As always, the building plans and the calculations associated with this design should be reviewed by a registered design professional.
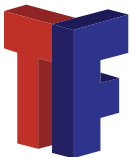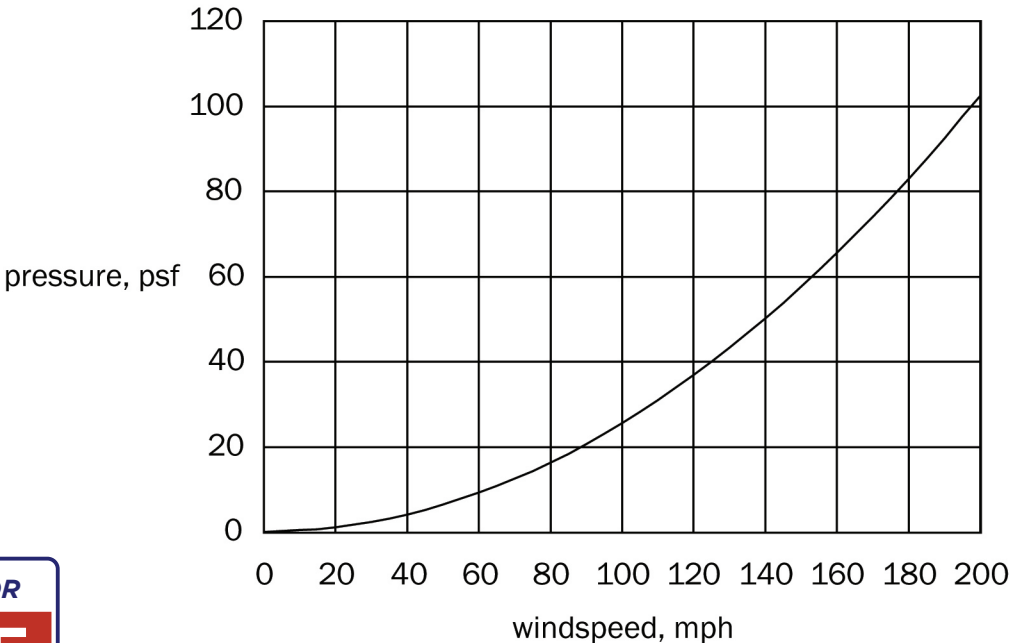
WINDSPEED vs. PRESSURE

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