

# POWERCLAD®

Weather Protection & Containment Solutions  
Powertie Scaffold Sheeting Fasteners

## Installation Guide

Revision 4.8

www.powerclad.com

**As with all installations, a Health & Safety risk assessment should be undertaken by a qualified and competent person to ensure that the supporting structure is designed to accommodate the increased wind forces on sheeted scaffolds. It is essential that qualified and trained personnel responsible for fitting and maintaining the sheeting properly understand the requirements for ensuring that it is fixed so that it will perform as intended.**

These installation instructions are based upon currently available good practice and information and only offered as a general guide. Final determination of the suitability of any information or material for the use contemplated and the manner of use is the sole responsibility of the user and the user must assume all risk and liability in connection therewith. Check the suitability and safety of the products for the use envisaged with all current and applicable national standards.

### 1. Support density

This guide is intended to give scaffold designers a recommended minimum support density (the number of ties per square metre) of Powerties for the fixing of Powerclad Sheeting.

Appreciating that contractors start, alter or dismantle scaffolding every working day throughout the country, it is important to have a guide that is simple and convenient.

An assessment of wind forces, albeit an approximation, is preferable to wind forces being ignored.

### 2. Wind speed

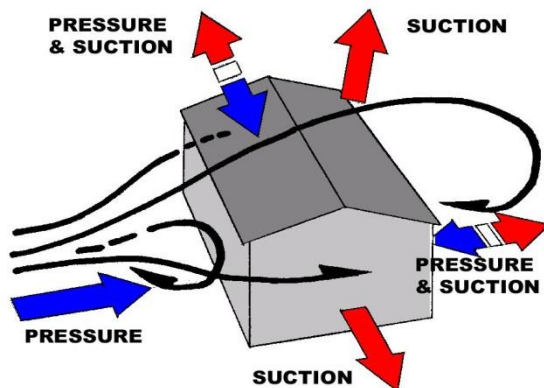
Wind speed and behaviour is influenced by many factors including thermal bubbling, mixing of air masses and mechanical stirring caused by the friction of the air over the ground.

Local topographical influences include hills and valleys, surface roughness of the broader environment, windbreaks, shape and size of objects in the surrounding area and of course the shape and size of the site itself.

Accordingly, wind speeds at the site, and indeed at different points around the site, inevitably vary considerably from Meteorological **Office wind speeds**.

### 3. The generation of pressure and suction

When the wind blows more or less square on to a building, it is slowed down against the front face with a consequent build-up of pressure against that face; at the same time it is deflected and accelerated around the end walls and over the roof with a consequent reduction of pressure, i.e. suction.



The greater the speed of the wind, the greater will be the suction.

Thus the channelling of wind between two buildings can produce a Venturi effect with severe suction loading on the sides facing each other.

### 4. Wind loading

Any attempt to correlate wind speeds to sheeting performance is almost impossible due to the variability of the wind velocity contours. As previously outlined, the pattern is complex with small eddies superimposed on larger ones, with the result that wind speeds vary greatly from place to place on the structure and from moment to moment.

All structures therefore require individual risk assessment, interpretation and expert design.



**Sheeted scaffolds incur higher wind loading**

### 5. Important

Before installing any sheeting, expert assessment of the scaffolding should be undertaken in order to ensure that the use of sheeting will not exceed the design load of the scaffold structure.

The recommendations in this guide are the number of Powerties required for installing Powerclad Sheeting under most circumstances.

It does not in any way imply any form of performance or guarantee. Each individual site will have its own wind characteristics and peculiarities that may require the installation of additional Powerties.

Ultimately, the more ties per square metre, the greater the resistance to wind forces.

It should be noted that the breaking strength of both sheeting and fastening ties reduces over time.

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### How to use the guide

- i. Undertake an expert assessment of the scaffolding to ensure that the use of sheeting will not exceed the design load of the scaffold structure.
- ii. Obtain the "Maximum gust speed likely to be exceeded on the average of only once in 50 years at 10m above ground level in open country" statistic for the site location from the meteorological office.
- iii. Refer to the table and read off the appropriate support density for Powerties for different elevations.

### Recommended support density for Powerties

Shown in number of ties per sqm for each roll

Building Height (metres)	Maximum gust speed likely to be exceeded on the average of only once in 50 years at 10m above ground level in open country				
	42 m/s	44 m/s	46 m/s	48 m/s	50 m/s
10	1.0 - 1.5	1.2 - 1.5	1.2 - 2.0	1.5 - 2.0	1.5 - 2.0
15	1.0 - 1.5	1.2 - 1.5	1.2 - 2.0	1.5 - 2.0	1.5 - 2.0
20	1.2 - 1.5	1.2 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 3.0
30	1.2 - 2.0	1.2 - 2.0	1.5 - 2.0	1.5 - 3.0	2.0 - 3.0
40	1.2 - 2.0	1.5 - 2.0	1.5 - 2.0	2.0 - 3.0	2.0 - 3.0
50	1.2 - 2.0	1.5 - 2.0	1.5 - 3.0	2.0 - 3.0	2.0 - 3.0

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