FILQUIP PTY LIMITED

5/126 Compton Rd
Underwood qld 4119
Ph: +61 7 3208 3499
Fx: +61 7 3208 3449
Email: sales@filquip.com.au

BASICS IN FLUIDISED BED CONVEYING

When a small particle size material such as sawdust, flour or cement is at rest, it behaves as a solid. The material is very dense (ie. the particles are packed very close together). If you were to try pushing a probe into the material, the penetration would be very slight. In order to move this material down a chute using gravity, the incline must be very steep. Even then, the material flow would be erratic or non-uniform.

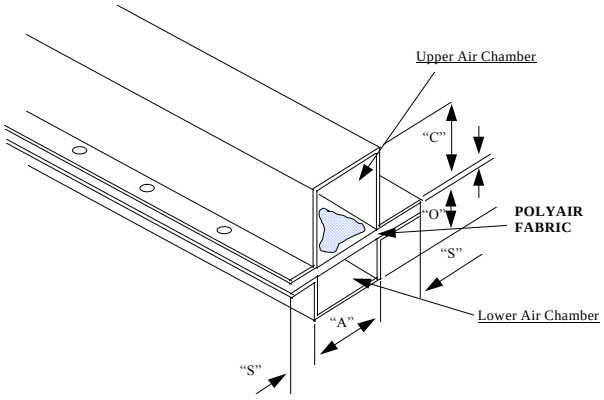
When air is passed through a fine particle mass, the air surrounds each particle and creates space between them (the air displaces the particles). In this condition, the mass of solid "floating" particles behaves as a liquid or fluid. A probe will now pass through the mass easily.

Product is moved via gravity with slopes as slight as 6-8° below horizontal. In silo or bin configurations, the fluidising principle allows material to be loaded and unloaded as well as blended without compacting.

The basic parts of a fluidised bed conveying system are:

1.	Product	Fine to medium particle size material.
2.	Membrane	Semi-permeable - lets air pass through but holds product from passing through (Polyair fabric).
3.	Lower Air Chamber	Chamber-below membrane which is the source of the air.
4.	Upper Air Chamber	Chamber above the membrane which receives and exhausts the air.



NOTES ON VARIABLES IN A FLUIDISED BED

Air can be passed through the membrane by pressurising the lower airchamber (most common), or by drawing a vacuum in the upper air chamber.

The membrane is made to specification to ensure that it passes a given volume of air at standard air pressures. The permeability of a belt can be varied.

Flow rate of the product down the incline is controlled by the volume of air passing through the product and by the degree of incline. The incline is generally fixed

For high temperature applications Nomex is available on request

.

E800 AIRSLIDE

Composition	**:**	**100% Polyester multifilament**
Weight	**:**	**3900g/m2**
Thickness	**:**	**4.5mm(approx)**
Weave	**:**	**double 2 ply**
Yarn	**:**	**Multifilament with filling yarn**
Air Permeability:		**400m3/m2/hr@800mm WG**

Available from:

FILQUIP PTY LIMITED

5/126 Compton Rd
Underwood, Qld 4119, Australia
Ph: +61 7 3208 3499 Fx: +61 7 3208 3449
www.filquip.com.au sales@filquip.com.au