

Understanding the 'Bellows Effect' and why it matters



The best coverall for dust protection may not be what you think!

The 'Bellows Effect' occurs when a user wears a coverall constructed with fabric that has very low air permeability. As the wearer moves during activity, air is forced to move around inside the suit (walking is very much like the pumping action of bellows), creating constant pressure changes and short term pressure differentials between the inside and outside of the suit.

Differences in air pressure result in air flows, so air will flow both in and out of the suit using any route available. In a non-permeable fabric the only route is through stitch holes in seams and any other openings such as zip teeth, neckline and cuffs etc.

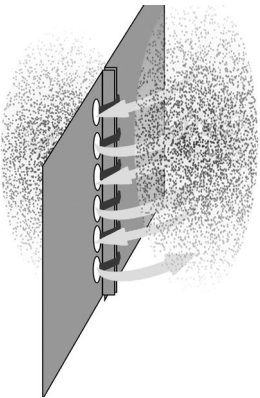
Thus dust particles are actively drawn into the garment.

However, when a user wears a coverall made from fabric with good particle filtration of particles yet also with good air permeability the 'bellows effect' does not occur; the air can pass through the material so no airflows are created through seam holes.

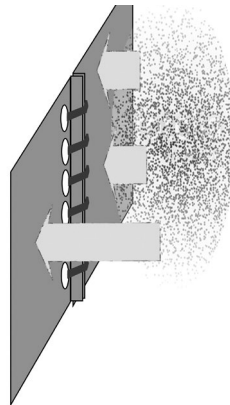
To discover five tips to maximise protection offered by your disposable coverall read our blog here:

<https://blog.lakeland.com/europe/five-tips-to-improve-the-dust-protection-offered-by-your-safety-clothing>

Non-air-permeable fabric - airflow created through seam holes and dust drawn through seam.



Air permeable fabric (such as SafeGard™): air passes through fabric; no airflow through seam holes; dust particles filtered by fabric.



i See Lakeland's '**Guide to Type 5 & 6 Coverall Selection**' for more detailed information on Type 5 & 6 garment comparison.



SafeGard™

SafeGard™ GP and 76 Type 5 & 6 protective clothing feature effective protection against dusts and light/aerosol liquid sprays and available in a range of styles - and are fully breathable so any 'bellows effect' is minimised. Find out more here:-

<https://www.lakeland.com/europe/brands/safeguard-sms>