
# Disposable Vs Reusable: Chemical Protective Garments

**Chemical Penetration:** *Involves liquids or solids passing through materials via microscopic pores immediately*

**Chemical Permeation:** *The unseen movement of liquids, vapours, or gases through protective clothing at a molecular level, progressing through absorption, diffusion, and desorption over time.*

| | Reusable Garments | DuPont™ Tychem® Garments |
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| Chemical Protection | Typically provide a poor chemical barrier, which is often highlighted by the limited chemical permeation data which they share. This is why Reusable garment suppliers focus on sharing chemical penetration data. | Designed for single chemical exposure, providing chemical protection which is always known and constant. Chemical permeation data of more than 900 chemicals, which includes both physical state and concentration. |
| Garment Weight & Heat Stress | Typically weigh between 1.0 kg - 2.0 kg, depending on the fabric and materials used (e.g. PVC, Polyester fabrics with PTFE/PU membranes, Neoprene, Polyurethane, etc.). | Weigh only 0.40 kg - 0.50 kg, due to the innovative Tyvek® fabric technology that Tychem® garments are based upon. Including: Tychem® 2000 C, 4000 S, and 6000 F |
| Garment Management & Shelf Life | Requires effective decontamination between uses, which can be costly and unreliable due to potential chemical permeation. There is no way to ensure that all chemicals have been removed after laundering/cleaning. | No decontamination required since designed for single chemical exposure. Also have a shelf life of up to 10 years if stored properly. |
| Garment Standards | Typically lacks certification for overall garment performance. Certification usually limited to the fabric, and only for chemical penetration and/or limited chemical permeation. | CE Cat III Type 3B & 4B certified, ensuring the complete garment is providing protection against the chemical hazard (not just the fabric). |



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