

## Examples of Modern Materials

### Kevlar

High performance aramid fibre (which means it is from the nylon family) that is very strong, lightweight, flame and chemical resistant and five times stronger than steel of the same weight.

Used for bullet proof vests, to strengthen tyres, lining aircraft petrol tanks, safety gloves, skateboards, oil rig cables.



### Nomex

High performance aramid fibre that is flame and chemical retardant, durable,

anti static, low shrinkage and resistant to oil.

It is used for fire fighters clothing, racing driver suits, seating on public transport, oven gloves.



### Fluorescent fabrics

Fluorescent fabrics look ultra bright because of the way the colours absorb and emit light. UV rays react with the colour making them appear bright to the eye. Note that the colour itself never changes, it is just the way our eye sees them, which is why fluorescent fabrics are modern and not smart.

The colours appear brightest in low light and dull weather conditions.

Reflective

### Reflective fabrics

Minute glass beads are embedded into yarns, fabrics, dyes and coatings. When light is shone on the surface the beads reflect light back into the viewer's eye making the fabric appear shiny and bright.

Note that the fabric itself never changes, it is just the way our eye sees them, which is why reflective fabrics are modern and not smart.

Reflective fabrics are often used for safety and protection e.g. uniforms, workwear, cycling wear. Reflective and fluorescent fabrics are often used together in products as both work in different types of light.



### Phosphorescent

Phosphorescent means 'glow in the dark'.

Phosphorescent pigments are micro encapsulated into yarns, fabrics, dyes, beads etc.

The pigments absorb UV light which is then released as a glow when there is no light around



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