

Material Glossary

Cellulose

The chief constituent of the cellwalls of plants and of wood, cotton, hemp, paper etc.

Composite

A material made from two or more constituent materials with significantly different physical or chemical properties.

Conductive

A conductive material is one that can conduct or transfer heat, sound or electricity.

Electro-welding (of fabrics)

An electrode is used to conduct current through a work piece to fuse two pieces together.

Electroluminescence

A phenomenon in which a material emits light in response to the passage of an electric current.

Geotextile

Geotextiles are permeable fabrics which, when used in association with soil, have the ability to separate, filter, reinforce, protect, or drain.

Infra-red (IR) reflecting

The materials have properties which reflect Infra-red radiation; solar generated electromagnetic radiation.

Iridescence

A rainbow-like play of colour, caused by the refraction of light waves as may be seen in an oil slick or soap bubble.

Microencapsulation

A process by which solids, liquids or even gases may be enclosed in microscopic capsule by the formation of thin coatings of wall material around the substance.

Nanofibres

Are fibres with diameters less than 100 nanometres, in the textile industry this definition is often extended to include fibres as large as 1000 nm diameter.

Nanofibrous membrane

Membrane material formed through the combination of nano fibres.

Photovoltaic

A material capable of producing electric current or voltage using electromagnetic radiation. Solar cells capturing IR radiation from the sun and turning it into electrical energy.

Transducer

A device which converts one form of energy to another form of energy including: electrical, mechanical, electromagnetic, light, chemical, acoustic, and thermal energy.

Photoluminescence

Light emitted from any form of matter after the absorption of light.

Phosphorescence

Continuing luminescence after light is removed e.g. glowing hands of a clock, paint etc.

Piezoelectricity

The electric charge that accumulates in certain solid materials in response to applied mechanical stress. This may occur in many substances such as crystals, bone, ceramics etc.

Polymer

A large molecule composed of many repeated subunits. Examples of such compounds include polyurethane foams, PVC foams, and Styrofoam.

Tensile

The property of a material describing its capability to be drawn out or stretched. Tensile strength relates to the measurement of materials ability to the maximum amount of tensile stress that it can take before failure, for example breaking.

Thermoelectric

Relating to, or involving the direct relationship between heat and electricity.

Thermoregulatory

The regulation of body temperature.

Thermochromic

Is the property of substances to change colour due to a change in temperature.