KS3 Product Design

Composite Materials

See also Design links on the Montsaye intranet

Technology Student

Composite materials are produced by bonding different materials to produce new materials with improved properties. Several composite materials have been around for many years and new composites are being developed. Composites are increasingly used in place of metals in machine tools.

SOURCE: OCR GCSE 9-1 Design Technology pg 52

Examples

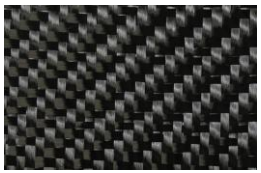
GRP – Glass Reinforced Plastic

Polyester resin reinforced with glass fibres

Woven Fabric

Chopped Strand Matting

Chopped loose strands

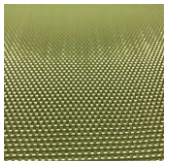


Carbon Fibre Mat

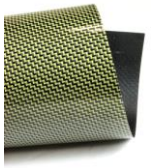
Recycled Carbon Fibre

Carbon Fibre

Kevlar



Kevlar plain weave



Carbon / Kevlar twill weave

https://www.explainthatstuff.com/kevlar.html

KS3 Product Design

Smart / Modern Materials

See also Design links on the Montsaye intranet

Categories

Smart

Respond to differences in the conditions of the environment they are in

Appear to 'think' or have 'memory

Examples

SMA

Shape Memory Alloy

SMP

Shape Memory Polymer

Thermochromic

Changes colour react to heat

Photochromic

Changes colour reacts to light

Self healing material

Others:
Precious metal clay
Conductive polymers

BBC Bitesize

DesignKMG

DT Focus

Link found in the Montsaye Intranet

Modern

Are those that are constantly being developed through the invention of new or improved processes

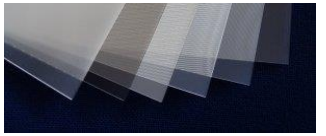
Examples

Polymorph

Teflon

Non-stick coatings

Lenticular Plastic Sheet



Smooth one side, small lenses the other

Others:
Flexiply

For further information on flexiply

http://www.technologystudent.com