# **Smart Materials**

# CHEMICALS BIOLOGY CHEMISTRY DATALOGGING PHYSICS Α В С D Ε F G н L. J Κ L Μ 0 Ρ S

# 1. Smart NiTi Spring

A 5mm dia. x 12mm (when closed) spring made from shape memory alloy. At room temperature this spring is soft enough to pull out to approximately 50mm by applying a small force. When heated to 70°C by passing an electric current through it, the spring contracts to its original length with a useful pulling force (equivalent to lifting a 0.5kg weight). Spring weight: 1.1g.

| Code     | Pack | Price |
|----------|------|-------|
| SEPACSW3 | Each | £5.49 |

## 2. Memory Wire

This nickel/titanium (NiTi) alloy initially 'remembers' that it should be straight. If it is bent into a different shape and then dropped in very hot water (90°C), it springs back to its original straight condition. It will repeat this behaviour any number of times.

| Code     | Pack | Price |
|----------|------|-------|
| SEPACSW6 | 1m   | £9.12 |

# 3. Two-Way Memory Spring

These remarkable springs, based on a brass alloy, 'remember' to open up when heated and close again when cool. If immersed in hot water at or around 90°C they will open in a split second and close as quickly if dropped in cold water. Such springs have many industrial applications – e.g. in sprinkler and fire damping systems where they replace expensive single-use only fusible links. Spring weight: 3g.

| Code     | Pack | Price |
|----------|------|-------|
| SEPACSW7 | Each | £3.32 |

### 4. Polymorph

Polymorph is one of the most useful materials for model making and prototyping. This polymer has all the characteristics of a tough engineering material yet it fuses and becomes easily moldable at just 62°C.

| Code      | Pack | Price |
|-----------|------|-------|
| SEPL1004A | 100g | £3.34 |
| SEPL1004B | 250g | £5.55 |

### 5. Lenticular Polypropylene Sheet

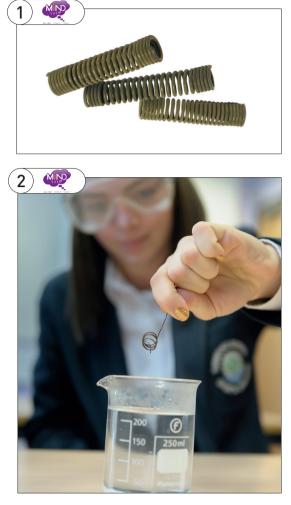
This remarkable material gives the optical illusion that it is actually 6mm thick instead of less than 1mm! If you place an object or image on top, it appears to sink below the surface.

| Code     | Dims, mm  | Pack | Price |
|----------|-----------|------|-------|
| SEPL1051 | 465 x 320 | Each | £8.83 |

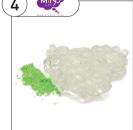
### 6. Smart Putty

'Silly putty' or 'bouncing putty' has long been available as an amusement but this type of material – properly known as viscoelastic polymer or dilatant compound – has serious engineering applications.

| Code     | Pack | Price |
|----------|------|-------|
| SESEP011 | Each | £2.80 |











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