

# Polyester strapping



Polyester's high tensile strength and low creep for rigid loads makes it an ideal hazard-free alternative to steel strapping.



Made from extruded thermoplastic polyester, Polyester strapping (PET) is an extra tough, super robust strapping solution specifically designed for stabilising heavy-duty packaging, such as bricks, blocks, tiles, metals, pipework and can/bottle pallets. It also has high elasticity properties, meaning it moves with the package.

You can apply PET strapping tape by hand, and secure using buckles, seals and hand tools or automatic machinery.

Available in eight different colours (black, clear, green, white, red, yellow, orange and blue), our PET strapping can also be single-colour custom printed for brand identity, usage or security purposes from a choice of up to four standard ink colours (black, red, blue and green). Other colours are available on request.

Applications include:

- bricks / blocks
- tiles
- metals
- pipework
- can / bottle pallets
- heavy packaging



## Specification summary:

|                |                               |
|----------------|-------------------------------|
| Width          | 7 - 32mm                      |
| Thickness      | 0.4 - 1.5mm                   |
| Break strength | Hand grade to fully automatic |
| Elongation     | 10 - 15%                      |

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UK manufactured  
strapping products:  
[plastexstrapping.co.uk](http://plastexstrapping.co.uk)



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## Data sheet

### Why choose polyester strap?

| Property                               | Benefit  |
|--|--|
| <b>High rigidity</b>                   | Works in automatic machinery   |
| <b>Low creep</b>                       | Maintains tension  |
| <b>UV resistant</b>                    | Outdoor applications   |
| <b>Orientates well</b>                 | Very high tensile strength   |
| <b>Elastic memory</b>                  | To aid strap tension even in packs that settle/shrink                    |
| <b>Good temperature resistance</b>     | Reducing ageing effects/rusting  |
| <b>Toughness and impact resistance</b> | Does not split easily  |
| <b>Transparent gloss appearance</b>    | Quality appearance.<br>Label / packaging visibility                      |
| <b>Value</b>                           | Equivalent cost per linear metre is less expensive than steel strapping. |

\* Refer to tool / manufacturer for seal efficiency

### Breaking strength:

The following is for example purposes only. Many factors can affect the result:

| Factor                                    | Variables   |
|---|---|
| <b>The type of package being strapped</b> | Rigid / compressible<br>Sharp / round edges<br>Friction between items |
| <b>The method of transportation</b>       | Internal / export<br>Palletised / loose                               |
| <b>The seal strength *</b>                | Plastic buckle / metal seal<br>Friction / heatseal                    |
| <b>Safety factor</b>                      | 1.5 - 2.0 of weight load  |

\* Refer to tool / manufacturer for seal efficiency

### How to calculate safety factor:

Safety factor = Seal efficiency ÷ Total load weight

As a rule of thumb a safety factor between 1.5 & 2.0 is desired.

Example:

Total load weight = 800 kg

6 straps each of 300 kg breakload = 1800 kg

Seal efficiency 75% (Friction weld) = 1350 kg

Safety factor = 1350 ÷ 800 = 1.7 (The result is between 1.5 and 2.0, so should be acceptable)

Due to the many parameters that can affect the result, each unitisation can require different amounts and breaking strength of strapping. The final specification is the responsibility of the applicator.

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### Colours:



Clear



Black



White



Blue



Green



Yellow



Orange



Red

More colours  
available  
upon request

### Technical and safety data:

|  |   |
|--|---|
| <b>Composition</b>                       | Extruded thermoplastic polyester manufactured in an ISO 9001: 2008 Environment.<br>Thermoplastic polyester 98-100%<br>Colour additives 0-2%<br>Form: Flexible plastic tape  |
| <b>Disposal</b>                          | Controlled Thermo-destruction is recommended.<br>Important note: Loops of strapping made by the end user, can be a dangerous trip hazard. Loops should always be cut or peeled at the weld, when removed from a package. Waste should be disposed of properly and not left on the floor.  |
| <b>Hazardous reactions</b>               | None  |
| <b>Joining methods</b>                   | Either by hand tool with metal buckles or seals, or friction welds, or heat sealed.   |
| <b>Physical</b>                          | Density: 1.35g/cc<br>Appearance: Clear or Opaque  |
| <b>Thermal behaviour/<br/>combustion</b> | Melting Point: 255°C<br>Decomposition temperature: approx 300°C<br>Self ignition temperature: approx 500°C<br>If heating is taken beyond the decomposition temperature then oxidative pyrolysis results and the following are evolved: carbon dioxide (OEL-8hr TWA 5,000 ppm), carbon monoxide (OEL-8hr TWA 50 ppm), acetaldehyde (OEL-8hr TWA 200 ppm) and water vapour.<br><br>Extinguishing agent: carbon dioxide, water, foam or dry powder.<br><br>Emergency and first aid burns procedure: If any molten material contact skin, cool rapidly with cold water and obtain medical attention for removal of adhering material and treatment of the burn. |
| <b>Toxic hazard data</b>                 | Toxicity: Thermoplastic polyester is widely accepted by the packaging industry and for contact with food stuffs. It is generally regarded as being biologically inert.<br><br>Ingestion: Should always be avoided even though Polyester is considered harmless.<br><br>Inhalation: At elevated temperatures such as those developed in the head of a strapping machine. Any fumes should be correctly extracted and dispersed into a large volume of air.   |
| <b>Special Precautions</b>               | It is vitally important that good house keeping is maintained in packing and unpacking areas. Any strapping "loops" which are discarded are a health hazard, it is imperative that they are cut and placed into an appropriate disposal container immediately.  |

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### Technical and safety data:

#### Storage

Temperature: Store between 5°C - +40°C Both the plastic and cardboard packaging materials are flammable, but no other exceptional health and safety hazards are applicable in normal storage conditions. It should be stored in a no smoking area, away from naked flames or sources of extreme heat. Unboxed coils should be stored away from windows or doorways where sunshine may enter. Pallets of these materials are supplied with the following [pallet label](#).

Storage at elevated temperatures will increase the amount of edgebow (curvature) that develops in the tape and the speed with which it develops.

Shelf Life: Under normal storage conditions virtually unlimited.

Protection: Direct contact with Polyester strapping does not normally lead to skin irritation, but for safety, gloves and eye protection should be worn. Care must always be taken when cutting Polyester strapping from secured goods as the strap may demonstrate a recall effect due to its highly stressed state.

*The information provided is for guidance purposes only and no responsibility is accepted for results obtained.*

#### Abbreviations:

PPM - Parts per million

TWA - Time weighted average

OEL - Occupational exposure limits