



## Tech100 Polymer Coating

**Bodycote can now offer Tech100 polymer coating from its specialist Macclesfield coatings facility...**

**Tech100 is a liquid dispersion coating, based on PEEK™ polymer, offering exceptional scratch, wear and corrosion resistance, low friction, anti-stick, high temperature performance, strength and durability.**

Eco friendly Tech100 coatings were developed to fill the gap found in many existing coating technologies today. Whether applied to industrial, automotive, food processing, semi-conductor, electronic or pharmaceutical parts, Bodycote Tech100 coatings are a great choice for engineers looking to improve the wear and corrosion performance of the parts in their applications.

The main ingredient of Tech100 polymer coating is PEEK™ polymer, a linear, aromatic, semi-crystalline thermoplastic, widely regarded as one of the highest performing thermoplastics in the world. It offers a unique combination of properties to help processors and end users to reach new levels of cost savings, performance and product differentiation.

Tech100 is a one-coat system – with proper substrate pre-treatment no additional primer is required.



### Applications

- Tyre moulds
- Pharmaceutical moulds
- Water pump seals / valves
- Roller bearing surfaces
- Textile guides and rolls
- Printing and glue applicator rolls
- Compressor components
- Nuclear applications
- Electronic circuit substrates
- Food processing

### Benefits of Tech100 polymer coating:

- **Exceptional abrasion resistance**  
Very hard, tough and scratch resistant.
- **Excellent mechanical properties**  
Including wear, creep and cut-through resistance. Extremely durable at high temperatures.
- **Excellent wear surface**  
An excellent wear counterface to hard surfaces like steel and ceramics. Non-galling with low particulation and non-sloughing.
- **Good lubricity**  
Offers a smooth and uniform surface.
- **High load-bearing surface**  
One of the strongest thermoplastic coatings on the market. Very resistant to creep and flow caused by compression.
- **Excellent radiation resistance**  
Tech100 grades exhibit excellent radiation resistance. Can withstand high doses of Gamma radiation (>109 Rads) without embrittlement.
- **High temperature performance**  
One of the highest performing polymers available where continuous high temperature performance up to 260°C (500°F) is required.
- **Very good chemical resistance**  
Insoluble in all common solvents. Excellent resistance to acids, bases, hydrocarbons, salts and steam.
- **Good electrical insulative properties**  
Very stable electrical insulative properties over a wide range of temperatures, frequencies and humidities.
- **Low moisture absorption and excellent hydrolysis resistance**  
Properties are unaffected by exposure to water, humidity and steam.



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## Tech100 - Performance characteristics

- **Coefficient of Friction** - 0.18 low coefficient of friction. Lubricants can be added to improve the coefficient of friction further. Will not gall metals.
- **Hardness** - Shore D hardness – D85 (Compared to PTFE at D50-55)
- **Bend** - Pass at 3.2 – units in mm ISO 6860
- **Abrasion Resistance** - five times the wear resistance of fluoropolymers
- **Mechanical properties** - four times the strength of fluoropolymers
- **Temperature** - for use up to 260°C at constant use
- **Melting Point** - 343°C
- **Coating Curing Temperature** - 400°C
- **Chemical Resistance** - inert in most acids and alkalis. Not affected by steam. Low moisture absorption
- **Adhesion** - excellent adhesion to the substrate negating the need for a primer during the coating process
- **FDA Compliant** - approved for use in the food industry

## Environmental peace of mind...

Tech100 is an eco-friendly coating; the majority of dispersion grades are water based and are formulated to contain some of the industry's lowest levels of volatile organic compounds (VOCs).

The majority of Tech100 VICTREX® PEEK™ coating grades also comply with FDA standards and can be used in environments involving food contact.

## Quality Accreditations

The facility holds major accreditations such as ISO 9001:2000, as well as numerous customer approvals. Our highly experienced management team are able to offer support and advice to meet your coating needs.

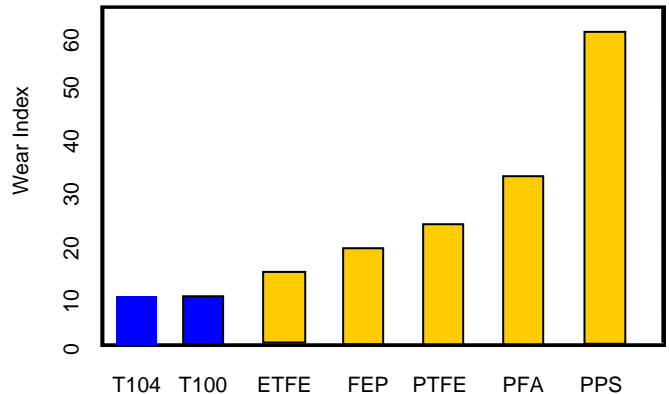
## Environmental Accreditation

Bodycote Macclesfield also holds ISO 14001 accreditation.

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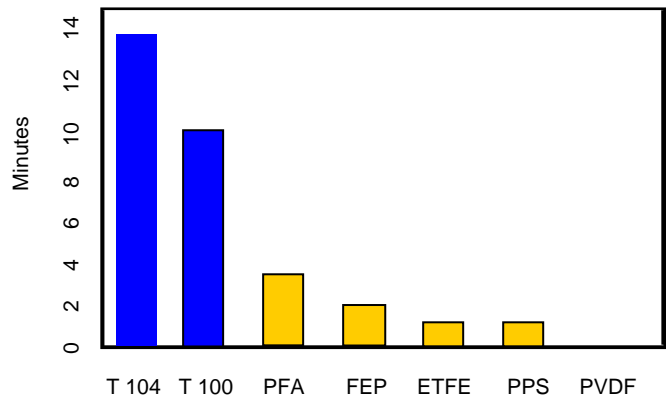
## Taber Abrasion Test ASTM D 4060 01



Tech100 versus competitor polymer coatings  
Taber Abrasion at 1000gm load

## Comparison - Time to wear

Time to wear through 25 microns at 250N Load



Tech100 versus competitor polymer coatings

Tech100 series did not wear through to the metal substrate. All the other coatings eventually wore through to the stainless steel substrate. The PVDF wore through in under 2 seconds whereas it took 10 minutes to wear through 25 microns of Tech100 at these loads.