

## Mechanical Plating

**(Mechanical Galvanising, Inverplex, Almac) Mechanical Plating (Peen Plating) is universally recognised as the answer to ensure plated products have no hydrogen embrittlement.**

*High tensile products can be mechanically plated with the confidence of ensuring that your product performance is not compromised by embrittlement. The process is carried out at ambient temperatures in rotating tulip shaped rubber lined barrels containing glass impact media, surface conditioners and zinc powder. The energy expanded from the rotation of the barrel causes the glass impact media to cold weld the zinc powder to 100% of the surface area and therefore there are no problems with unplated areas.*



### Main Benefits

- **Medium term corrosion protection**
- **Coating deposits range 5 - 15 microns**
- **After treatments - chromate, passivation, JS 500 etc**
- **Salt spray results - 96 - 300 hrs**
- **No hydrogen embrittlement**
- **Integral lubricant available**
- **Chrome VI free passivates**

### Properties

- Short to medium term environmental protection.
- Complete avoidance of hydrogen embrittlement enabling high tensile components to be coated i.e. HT bolts above 8.8g, springs, etc.
- Rubber to metal bonded component assemblies can be coated after they have been bonded.
- Size limitation, components above 0.5kg or above 150mm long cannot be treated.
- Salt spray resistance to 96 hours for normal yellow passivation, for super passivates eg JS 500, up to 300 hours salt spray to ASTM B117.
- Available as combined metal coatings i.e. zinc/tin.
- Available with integral or external lubricants for continual torque to BS7371 Part 2.
- Accepts black post treatments.



Mechanical Plating Plant

## Coating Specification

Coating deposits are typically those of electroplating, 5-8 $\mu$ m but can be increased to 50 $\mu$ m if specified. Above 20 $\mu$ m this process is normally called Mechanical Galvanising.

## After Treatments

Tri-valent passivation coatings, silver in colour. Can be subsequently coated with organic sealants to enhance properties and colour (see duplex coatings). Tri-valent passivates comply with eolv and meet the corrosion protection of yellow chromates.

Bodycote Metallurgical Coatings Ltd.  
Shakespeare Street  
Wolverhampton  
WV1 3LR  
Tel: +44 (0) 1902 452915  
Fax: +44 (0) 1902 352917  
Email: sales.bmc@bodycote.com

[www.bodycote.com](http://www.bodycote.com)

## Applications

- Compression springs, tension springs - car wing mirrors.
- Self drilling, self tapping screws.
- Cap screws.
- Wheel balance clips.
- Masonry nails.
- Hardened washers.
- Bolts
- Hardened steel fasteners.

## Specification/Approvals

*BS7371 Part 7*



Maclaren Pram - Mechanically Plated Hardened Washers

