

## Frequently Asked Questions



### How does P2i's liquid repellent nano-coating work?

P2i's patented technology employs a special pulsed ionized gas (plasma), which is created within a vacuum chamber, to attach a nanometer-thin polymer layer over the entire surface of a product. This dramatically lowers the product's surface energy so that when liquids come into contact with it they form beads and simply run off.

The coating is molecularly bound to the product surface at a nanoscopic level, which means it becomes inseparable from it and is as durable as the material it protects. Because the coating is one thousand times thinner than a human hair, it is invisible to sight or touch.

### What is a plasma?

Also known as the fourth state of matter, a plasma is in fact a gas that has been energized to a point where it becomes a mixture of ionized, neutral, and activated molecules. Plasmas are not rare, they are present in space (e.g. stars) and fusion reactors and can be found in flames and neon lighting. The plasma we use is a specific combination of energized molecules that create the liquid repellent nano-coating surface.

### What production speeds can be reached?

P2i's plasma chambers today range in size from 8 liters to 2000 liters. We install our plasma chambers into our customer's manufacturing facilities to meet their required annual through-put demands. The specific speed will depend on factors such as annual volumes and the size and the nature of the product. For some applications, a single process duration for multiple products can be as short as three minutes.

### How long does the treatment last?

During the plasma process, the monomer that we ionize chemically attaches to the surface of the product and so becomes part of the material. This way the treatment will last as long as the material it attaches to.

### How much does the treatment cost?

The price of the process depends on the end application requirements, the volume of product to be processed, the processing speed, and the size of the equipment used to deliver the process.

### Is the process environmentally friendly?

Yes, it is a solvent-free process that uses very small amounts of a pure protective monomer in an enclosed chamber. Negligible waste is produced and minimal energy is used.

### Does the processing facility produce any toxic emissions?

No. Facilities supplying the process produce no significant emissions. A very small amount of monomer is used and any excess material is filtered-out by the equipment.

### Can you get it in spray form so you can 'do it yourself'?

No. The process has to be carried out in one of P2i's stand-alone nano-coating machines.

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### What facilities does a factory need to run the machines?

The plasma chambers can be rapidly installed, and depending on chamber type all that is needed is an electrical supply, compressed air, cooling water and an air extract.

### Why should I choose P2i over alternative technologies?

Tests show that P2i's technology can deliver performance benefits for a wide range of materials, including plastics, metals, fabrics, leather, ceramics, glass and paper. Even complex 3D objects incorporating different materials can be treated successfully.

This enables our customers to dramatically improve the performance of their products by protecting them from the effects of water and all other liquids, without affecting the look or feel.

### What maintenance is required on the machines?

The equipment is very reliable and uses components that have been engineered for high volume production, so downtime is minimal. The only routine maintenance that is required is the loading of new monomer cylinders and the replacement of an exhaust line filter. P2i's Global Service and Support Team are available 24/7 to perform preventative maintenance and repairs.

### How do you operate the machines?

These machines have been designed to integrate seamlessly and effortlessly with existing assembly lines, and can be operated at the touch of a single button by unskilled workers.

### What type of products can this technology be used on?

A wide variety of products can be treated using ion-mask™ or Aridion™ technology including mobile phones, hearing aids, MP3 players, filters, laboratory consumables, footwear and clothing.

### Will you treat my mobile phone, MP3 player, etc?

P2i is already working with many of the world's leading brands to process a wide variety of products and materials. However, we are a B2B company working with manufacturers rather than individual consumers.

### Does the Aridion™ coating cause any damage to the sensitive electronics in my device?

No, the process operates at low temperature and the nano-scale deposited layer does not affect the electrical performance of the device. The process does operate at low pressure, so products that cannot withstand low pressures may not be appropriate for treatment.