

POETON

High Specification Coatings

Food and Drink Industries

Apticote Coatings for the Food and Drink Industry

Poeton offer a wide range of engineering coatings for the Food and Drink Industries. These encompass:

- Non-stick and low friction coatings, with compliance* for food contact
- Low friction coatings for sliding situations in food machinery where liquid lubricants are not permitted
- Anti-corrosion coatings, including anodic treatments for lightweight alloys of aluminium
- Composite anodic treatments for lightweight alloys of aluminium, for non-stick and low friction
- Anti-fretting coatings, e.g. splines and couplings on packaging machines
- Wear resistant coatings - thermally sprayed coatings and electroless nickel
- Anti-galling coatings



Poeton meet the challenge provided by the demands for cleanliness and food compatibility. We produce a wide range of advanced polymer coatings for parts used on food processing and packaging equipment to provide wear resistant, non-stick, low friction and non-wetting surfaces. They are designed to keep machinery and equipment working 24/7, with the minimum of disruption, whether it's sorting, packing, filling, moulding or printing.

We are at the forefront of surface coating and treatment suppliers to some of the world's leading food and drink companies, and one of our crucial advantages is our technical support and laboratory backup. Using our expertise in characterising and understanding wear and sticking processes, we work with our customers on a project basis, ensuring that the most effective coating solution is identified.

Case-history

Abrasive peas

Problem - Peas are unexpectedly abrasive. As they tumbled down the chute under the eye of the sorting device, they were wearing away the aluminium extrusion at an alarming rate. Our customer needed a food compatible coating that could withstand the harsh conditions.

Solution - This was not a job for conventional hard anodising. The problem was one of erosion, rather than sliding abrasion, with an element of low angle impact and sub-surface stresses. Poeton solved the problem with our **Apticote 300M** anodising system, with a coating that could stand up to the high contact stress, whilst the surface provided unrivalled wear resistance.

Now the machines last for years, not weeks!

Typical Apticote Food and Drink Applications

- Mixers and stirrers
- Moulds and trays
- Hoppers and dispensers
- Extruders
- Rollers and presses
- Conveyors, chains and pulleys
- Heater plates
- Food packaging machinery
- Bottle handling machinery
- Sealing plates and knives
- Seal faces
- Food pump parts, splines and couplings
- Food labelling machines
- Food sorting machines



Which Apticote coating do I specify?

Apticote Coating	Features	Application areas and benefits
Apticote 200	Non-stick and low friction	A family of polymer coatings offering non-stick, low friction and wear prevention. Parts include moulds, tray, sealing plates, heater plates and trays. Poeton will advise on which of the Apticote 200 coatings is best for a given application, and on the question of food compliance
Apticote 810	Graded polymer composite coatings	Graded, composite polymer coatings offering unique non-stick. They solve the eternal problem - how to get a non-stick coating to adhere to a metal substrate, at the same time as being non-stick to the food product. Parts include sealing plates and other applications where there is high contact pressure, situations which will dis-bond a normal non-stick polymer coating. Poeton will advise on which of the Apticote 810 coatings is best for a given application, and on the question of food compliance
Apticote 300	Hard anodising	Our hard anodising provides exceptional low stress abrasive wear resistance, and is suitable for lightweight structural parts that might be subject to wear or erosion by food products, such as dried fruit or vegetables. Parts include chutes and conveyors on sorting and dispensing machines
Apticote 350 and Apticote 356	Corrosion protection for aluminium parts, with low friction	A range of anodic specialised processes with polymer infusion, providing exceptional wear and corrosion protection (up to 15000 hours salt spray) for aluminium alloys. Parts include trays and moulds.
Apticote 400	A high quality electroless nickel	Ideal for precision parts needing anti-fretting and corrosion protection, on parts such as splines, couplings and conveyors.
Apticote 450	An electroless nickel/polymer composite	Providing very low friction, wear resistance and anti-fretting. Good for anti-galling on threads, and for parts on conveyors and chains where no lubricant is permitted.
Apticote 460	An electroless nickel/polymer composite	Providing more wear resistance than the A450 variety, with low friction and exceptional non-stick. Poeton will advise on which of the Apticote 460 range is the most suitable for your application.
Apticote 800	Thermally sprayed coatings	We offer a wide range of cermets and ceramics for wear resistance on food machine parts that might be subject to heavy abrasion, including stirrers and mixers. Poeton will advise on which of our many coatings is best for your application.
Apticote Keronite 3000	An electro-ceramic coating for aluminium.	The ultimate wear protection for parts made in lightweight aluminium alloys subject to abrasion by aggressive food products

Case-history

Chocolate extrusion

Problem -Our customer had a particularly sticky problem with chocolate. The product was extruded at high pressure, between two counter rotating rollers, with dies and fingers, and the normal Teflon non-stick coatings were squashed, and peeled off within 40 hours. Then the chocolate stuck - with very messy consequences.

Solution - Poeton looked at the problem from a point of view of contact stress, calculating that the peak shear forces were actually below the coating, in the substrate. No wonder a normal non-stick polymer couldn't cope.

We recommended a much tougher, graded coating, our **Apticote 810** system, with a coating substrate bond that could stand up to the high contact stress, whilst the

The company quote was, "After coating with **Apticote 810**, our extrusion machine performed beautifully. No peeling. No bare metal. No release problems at all. That was over two years ago, and those extruder dies and fingers are still exhibiting excellent on-the-job performance.



Disclaimer

The information contained in this leaflet is intended for guidance. Whilst every effort is made to understand the environment in which the coating is designed to work, success can only be determined by trials and in-service testing.



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NADCAP Accreditation is held by Poeton Industries Ltd with Poeton (Gloucester) Ltd Accredited for Plasma Spray (coatings) and Chemical processing, and Poeton (Cardiff) Ltd Accredited for Chemical Processing and NDT

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