

## Lubricant Metal LAM'LCOAT® coating in the Plastic industry

With operating temperatures between  $-459^{\circ}\text{F}$  to  $+1112^{\circ}\text{F}$  ( $-273^{\circ}\text{C}$  to  $+600^{\circ}\text{C}$ ) the LAM'LCOAT® dry film lubrication process will significantly improve part release and material flow for most high density plastics, including; polycarbonate, polyethylene, polypropylene, ABS, polycarbonate and styrene. The improved flow characteristics and part release permit lower temperature and pressure requirements while producing a significant reduction in cycle times.



In addition the improved release eliminates or minimizes flash, sticking, scuffing and other blemishes. LAM'LCOAT® reduces friction and breakage for ejector pins and improves lubrication and reduces wear on gibs, slides, lifters, leader pins and bushings.

This laminated coating takes place between the plastic material and the components to provide an efficient lubrication. As an integrated moulder part, the LAM'LCOAT® act as a very thin oil film without lubricate the components. It supports high pressures (until  $280\text{ kg/mm}^2$ ), and its lubricate power grow with higher loads. This lubrication prevents friction in the mould, which produces less heat and prevents from abrasion of the mould, and expand life cycle. Moreover, the deposits linked to the injection, are easier to clean thanks to the anti-adhesion function of the LAM'LCOAT®.

- Examples of parts coated with LAM'LCOAT®:

- ❖ Example of Comfort Bottle Closure

The concerned company has a number of 6 years old 12 impression unscrewing tools. The tools were beginning to show their age and working had become problematic.

LAM'LCOAT® coated the central steel cores and the beryllium copper unscrewing sleeves and returned these parts the same day. The tool went back into service and is working perfectly.

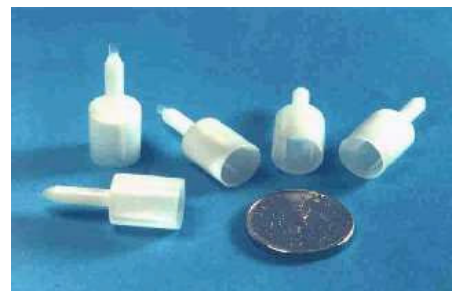


- ❖ Example of Shampoo Bottle Closure

LAM'LCOAT® coated the unscrewing cores and the central bronze cores. The tool went back into service with a much reduced cycle time and required less torque to unscrew.

- ❖ LAM'LCOAT® solves release problems for cosmetic packaging

This is a small thin walled part with 0.25mm internal webs. Parts would occasionally stick in the cavity. The sticking got a whole lot worst when regrind was used. Since the mould had quite thick sprues a lot of material was not reusable. We coated the cavity inserts of the mould. The cycle time was able to be reduced from 8 sec to 7 seconds and sticking was eliminated. The first shift after coating the mould the production increased from 22k to 32k on 100% regrind.



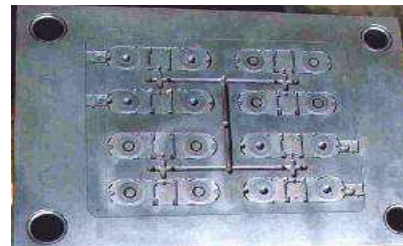
❖ LAM'LCOAT® solves release problems for deodorant packaging

The cavities of a major deodorant client had a rather special moulding made from a clear PET material which kept sticking to the mould cavity. A small modification to the gate area plus coating with LAM'LCOAT® solved the problem. As a bi-product of coating the cavity the filling time was reduced by 0.9 seconds. Also the polished cores were causing drag marks on the finished part. These were coated.... no more drag marks. Side-actions have been coated to help filling and surface finish.



❖ Example of a moulder for plastic gears

One of the mould cavities is really thin (less than 1 mm), so the material can't fill all the mould parts with a useful lubricant. But the problem is solved with LAM'LCOAT®.



- Its main advantages:

- Is anti-seize and possesses non-stick properties
- Prevents the use of release agents
- Enhances the flow of resin thanks to its low coefficient of friction
- Maintains sharp edges, fine patterns. Can be applied into slots or holes as small as  $\varnothing$  1,5mm, into specified inserts or other cavities
- Reduces the releasing efforts and the induced deformations of the parts
- Provides constant lubrication of patterns, inserts and ejection batteries
- Limits the need for maintenance
- Enables to limit the drafts by ensuring a release without sticking and to avoid burrs
- It is very interesting for parts as electronic components to be chromed or welded and where contamination of grease or silicone is not allowed
- Reduces pressure and wear, thus extending the life of molds, extrusion screws, injection channels and other tools and accessories
- Enables to increase speeds and production rates while preserving quality, and thus to improve productivity
- Does not migrate on molded parts

