



OVERVIEW

Using our SiO₂ coatings as release agents

We are often asked "Can your coatings be used as release agents?" and the short and technically correct answer is "yes they can".

However, this does not mean that the coatings are immediately better or more cost effective than prevailing technologies.

Our nano scale coatings are low cost, easy to apply, have low surface energy, very durable, heat tolerant and flexible. These are all attributes which our colleagues in the moulding sector seek; however, our coatings are exceptionally thin and so on many moulds the prevailing topography of the substrate (when viewed under a microscope) is very rough.

The surface, when coated still looks a little like a mountain range which is covered in a thin glass film. This very large surface area is normally masked by the application of a thick layer of release agent.

In many instances our nano coatings will work as standalone release agents for a short period, but soon micro deposits will contaminate the surface of the mould and the SiO₂ layer will become less efficient and this will result in production issues. These deposits can be removed with an appropriate cleaning agents.

Our Micron Scale coatings

These coatings will normally cover the rough surface of the mould and the result will be a mould with a super smooth surface. Again this would appear to be ideal for the moulding sector (these coatings are available in the range 700 nm to 15 microns).

The limiting factors are that these coatings require additional heat curing and they have a slightly higher surface energy than the nano scale coatings... but they are super smooth, food safe, exceptionally durable, and again in certain instances they can act as standalone release agents, depending on the nature of the material which is being moulded.



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Conclusions

It is our belief that the coatings can be used as a standalone release agent, but only in a narrow band of technical applications.

It is our assertion that our coatings are excellent mould protection and enhancing coatings. They have been used in the auto sector to protect and enhance moulds.



*Mould cleaned with Blu 1000 and coated with 640.
(Left side) Used for moulding vulcanised auto parts (Italy).*