

Technical Data Sheet

STRUKTOL® PERMALEASE 90

Instant curing semi-permanent, aqueous mould release agent for rubber and plastics processing

Composition

Aqueous emulsion of reactive, crosslinking prepolymers

Properties

Appearance		Slightly cloudy emulsion
Density at 20 °C	[kg/m ³]	1000
pH value		5.5
Physiological behaviour		Refer to safety data sheet
Storage stability		Up to 12 months in sealed original containers at temperatures between 5 °C to max. 40 °C. Protect from frost!
Packaging		5 kg cans 25 kg cans 200 kg drums



Recommendations for Application

STRUKTOL® PERMALEASE 90 is an instant curing, semi-permanent mould release agent on an aqueous basis. It is free of organic solvents.

STRUKTOL® PERMALEASE 90 forms a solid film on the mould surface and permits a large number of releases without renewal of the film. Mould contamination is reduced to a minimum. Transfer of the film onto the moulded article has not been observed, i.e. adverse effects on adhesion, varnishing or printing are not to be expected.

Thorough cleaning before application of STRUKTOL® PERMALEASE 90 is essential for the adhesion of the coating to the mould and the number of cycles one can obtain. The cleaning of the mould prior to the application of the release agent can be done either in a conventional, mechanical way or more efficiently by using specially designed mould cleaning compounds (e. g. STRUKTOL® MC-A or MC-B). A semi-permanent release agent applied to a dirty mould will result in fewer flawless separations than if the release agent is applied to a clean mould under otherwise identical conditions.

STRUKTOL® PERMALEASE 90 is applied directly onto the hot mould after thorough cleaning. This is important to start the film building polymerisation reaction but especially for water based release agents it is also important to evaporate the solvent immediately. Minimum application temperature for STRUKTOL® PERMALEASE 90 is 160 °C. Before moulding the applied coating must be heated to 160 °C. If STRUKTOL® PERMALEASE 90 is applied at 180 °C or above no pre-cure is necessary and moulding can commence immediately.

STRUKTOL® PERMALEASE 90 can be applied by brushing, dipping or spraying but spraying is by far the most popular method as it is the easiest and it gives the best results regarding uniform thickness of the coating.

When the coating of STRUKTOL® PERMALEASE 90 is abraded by the rubber to a certain point, the release properties decrease. In most cases the coating can simply be replenished by spraying again.

This replenishment will lead to a build-up of material on parts of the mould that are less abraded by the rubber and eventually this build-up has to be removed in order to produce perfect parts. This process can in turn be carried out excellently by using STRUKTOL® MC-A or MC-B as a mould cleaning agent.



The use of STRUKTOL® PERMALEASE 90 in the production of rubber parts can be described as a process with three controlling loops, the moulding loop, the replenishment loop and the reapplication loop. These three loops are visualised in the flow chart of figure 1.

The number of cycles that can be achieved in each loop has to be determined individually for each production setup because they depend heavily on a whole range of factors: the preparation and cleaning of the mould before applying the release agent, the application itself, the abrasiveness, the stickiness and the fouling properties of the compound, the geometry of the mould, the mould material, the injection and curing parameters and others.

If emulsions – such as STRUKTOL® PERMALEASE 90 – are stored, there may be differences in concentration after a longer storage period due to condensation of water on the lid of the container and due to slight creaming. Before application, STRUKTOL® PERMALEASE 90 should therefore be stirred thoroughly.

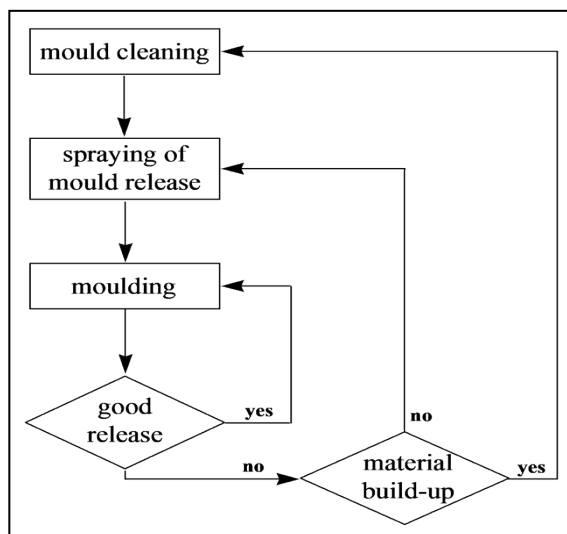


Figure 1: Loops in the use of semi-permanent release agents in rubber moulding



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