

Technical Data Sheet

STRUKTOL[®] PERMALEASE 95

Instant curing semi-permanent mould release agent on aqueous base for the rubber and plastics processing

Composition

Aqueous emulsion of reactive, crosslinking prepolymers

Properties

Appearance		slightly turbid emulsion
Density at 20 °C	[kg/m ³]	1000
pH value		5
Physiological behaviour		refer to safety data sheet
Storage stability		at least 9 months at temperatures up to 40 °C, protect from frost
Packing		5 kg plastic cans 25 kg plastic cans 200 kg drums

The data given are typical values which are not intended for use in preparing specifications. For test methods refer to the corresponding supplement.



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Recommendation for application

STRUKTOL PERMALEASE 95 is a semi-permanent, directly cross-linking mould release agent on aqueous basis. It is free of organic solvents and therefore harmless as far as environmental and physiological aspects are concerned.

STRUKTOL PERMALEASE 95 forms a solid film on the metallic 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 95 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 give only a much smaller number of proper releases than a coating applied to a clean mould under otherwise identical conditions.

STRUKTOL PERMALEASE 95 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 to prevent corrosion of the mould. The mould should have a minimum temperature of 100°C before the application of STRUKTOL PERMALEASE 95. Before moulding the applied coating must be precured at a minimum temperature of 130°C or higher. If the release agent is applied at a temperature of 130°C or higher a burning-in is not necessary as it can be immediately started with the demoulding.

STRUKTOL PERMALEASE 95 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.

As soon as the coating of STRUKTOL PERMALEASE 95 is abraded by the rubber to a certain point the release properties drop. In most cases the coat can simply be replenished by spraying (brushing, dipping) 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 again can be done most efficiently by the use of STRUKTOL MC-A or MC-B mould cleaning compounds.

The use of STRUKTOL PERMALEASE 95 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.

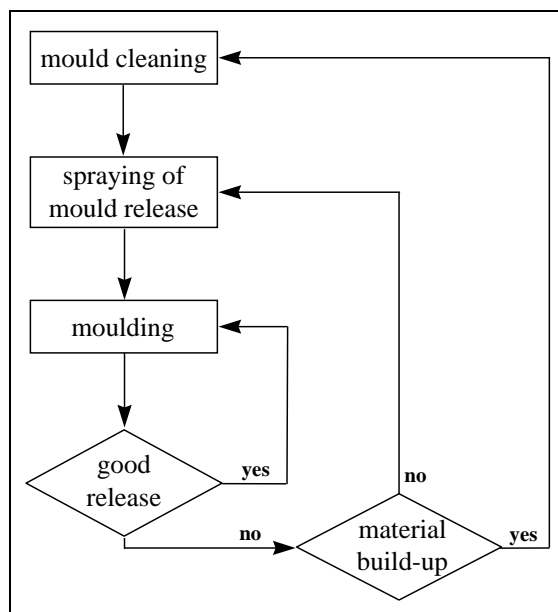


Figure 1 Loops in the use of semi-permanent release agents in rubber moulding

In case of prolonged storage emulsions, like STRUKTOL PERMALEASE 95, can show concentration differences due to condensation of water at the top of the drum and to slight creaming. Before application STRUKTOL PERMALEASE 95 should therefore be stirred thoroughly.

The suggestions for application and usage of our products as well as possible proposed formulations are meant to advise only to the best of our knowledge. This information is without obligation and does not release customers from their own testings to ensure suitability for intended processes and use. Liability is only accepted in case of intention or gross negligence. Liability for any defects caused by minor negligence are not accepted. Each producer is responsible and liable to observe legislation and patent rights of third parties.

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