

Sealant SLOTOFIN GM 1620

Sealant SLOTOFIN GM 1260 is a sealer, which is applied by immersion or in centrifuges on passivated or chromated zinc and zinc alloy coatings. It serves primarily to produce a defined coefficient of friction on screw threads.

Even one-time application of the Sealant SLOTOFIN GM 1620 improves the corrosion resistance. For particularly high requirements, the parts can also be sealed in another sealant of our SLOTOFIN series and after an intermediate drying step an additional treating in SLOTOFIN GM 1620 can be proceeded.

Layers obtained from the Sealant SLOTOFIN GM 1620 are transparent, touch-proof and may be controlled by ultraviolet light.

The information in this data sheet is based on laboratory as well as practical experience. Figures quoted for operating limits and replenishment quantities are for guidance. Actual values necessary will depend on the components being plated (material and geometry), their application and plating plant conditions.

Important:

Please read this instructions carefully prior to the use of the process and carefully follow all the parameters that have a direct influence on the operation. We reserve the right to make technical changes. In the interest of safety, please pay attention to the hazard warnings on the labels of the containers. The minimum shelf life of the products is included on the labels and is also available in the appropriate Quality Assurance (QA03).

The current IMDS number of the layer deposited from the process is available on the internet at www.schloetter.com/downloads.

For the storage of chemical products the TRGS 510 must be followed.

If the additives used in this process contain a SVHC-substance, then this will be specified in the corresponding Material Safety Data Sheet, section 15.



1.0 TECHNICAL INFORMATION AND EQUIPMENT REQUIREMENTS

Tanks:	stainless steel, rubber-lined steel, plastic (rubber-lined tanks must be leached with NaOH, (3 %) 24 h prior to first use)
Electrolyte agitation:	circulation pump required

2.0 MAKE-UP AND OPERATING CONDITIONS

2.1 Product names

List of products required			
Product name	Friction factor	Article no. (AN)	SG
Sealing Concentrate SLOTOFIN GM 1621	0.12	090741	1.00
Ammonia solution, (25 %)	supplied by user*		0.91

* Product quality specifications recommended by us can be found on the internet at www.schloetter.com/downloads.



Since the Sealing Concentrate SLOTOFIN GM 1621 is sensitive against low temperatures, stockyard and transport temperatures must not drop below +5 °C. Otherwise, the additive can be irreversibly destroyed.



2.2 Requirements for a 100 litre bath

Product name	AN	SG	Rack	Centrifuge	
Sealing Concentrate SLOTOFIN GM 1621	090741	1.00	15	33	ltr.

2.3 Make-up sequence for a 100 litre bath

New, but also used tanks and equipment must be cleaned prior to make-up.

Rack application:

- fill 15 litres of Sealing Concentrate SLOTOFIN GM 1621 into the tank
- slowly add while stirring constantly 85 litres of deionised water

Application in the centrifuge:

- fill 33 litres of Sealing Concentrate SLOTOFIN GM 1621 into the tank
- slowly add while stirring constantly 67 litres of deionised water

The sealant is ready for use when the operating temperature has been reached.

Make-up with tap water is possible but to use deionised water is recommended.



2.4 Concentrations and operating conditions

	Range	Optimum		
		Rack	Centrifuge	
Sealing Concentrate SLOTOFIN GM 1621	120 - 350	150	330	ml/l
pH value	8.5 - 9.5	9.0	9.0	
Temperature	18 - 30	--	--	°C
Immersion time	25 - 40	30	depending on the type of plant	sec.
drip off time	50 - 70	60		sec.

Raise ↑ pH value: Ammonia solution, (25 %) diluted 1 : 1 aqueous

2.5 Consumption and replenishment

Depending on parts surface, geometry and concentration of the Sealant SLOTOFIN GM 1620, 100 - 400 ml of Sealing Concentrate SLOTOFIN GM 1621 is consumed for every 100 kg of parts to be treated.

2.6 Characteristics of the coatings

Sealant SLOTOFIN GM 1260 produces surfaces with defined friction factor. In the torque/clamp force test DIN EN ISO 16047 the following values can be determined.

Friction factor: 0.12 ± 0.02

Depending on the type of substrate, the friction factor above may differ. With constant operating parameters the required values are reproducible within narrow limits.

3.0 PROCESS SEQUENCE

3.1 Pre-treatment

The parts are zinc- or zinc alloy plated as usual and passivated respectively chromated. Then, the Sealant SLOTOFIN GM 1620 can follow by wet-on-wet.

If the demands on the corrosion resistance are very high, the parts can be sealed in another sealing of our SLOTOFIN series before treating in Sealant SLOTOFIN GM 1620. Between the processes a thorough intermediate drying step is required.



3.2 Coating

Rack parts:

Sealant SLOTOFIN GM 1620 is applied by immersing. The immersing time is about 30 seconds. The subsequent drip off time is about 60 seconds.

Bulk articles:

Sealing of bulk articles is carried out in centrifuge installations. The max. revolution speed mustn't be less than 300 rpm. Sealing in plating barrels is strongly **inadvisable**.

3.3 Post-treatment

Immediately, after the drip off time the parts are dried for about 15 minutes at 60 - 80 °C. The sealant contains fluorescent components. Therefore, the coating can be checked in ultraviolet light with a wavelength of 340 - 380 nm.

4.0 MAINTENANCE AND FUNCTION OF THE INDIVIDUAL BATH COMPONENTS

4.1 Replenishment

Drag-out losses must be replenished. For this purpose, the lacking quantity of Sealant SLOTOFIN GM 1620 is made-up according to point 2.3 and with this make-up the volume in the tank raised to optimum.

4.2 pH value

The pH value is 8.5 - 9.5, optimum 9.0. The pH may decrease due to drag-in of acidic passivation- or chromating solution and must therefore be checked at regular intervals. The pH is raised with ammonia, (25 %) diluted 1 : 1 aqueous. The addition requires continuous stirring in order to avoid local excess dosing.

4.3 Operating temperature

The operating temperature is not critical. Sealant SLOTOFIN GM 1620 is operated at room temperature. Strong deviations should be avoided.

4.4 Electrolyte agitation

Continuous turnover is required during operation of Sealant SLOTOFIN GM 1620 in order to avoid the formation of conglomerates. After idle periods some lead time for agitation should be allowed prior to use.

5.0 TROUBLE SHOOTING

No information available at present.



6.0 EFFLUENT

Legal regulations must be observed for disposal of the Sealant SLOTOFIN GM 1620. Different regulations normally apply for the additives and the ready-made electrolyte. Please refer to section 13 of the appropriate Material Safety Data Sheet for disposal code and recommendations.

The following detoxification sequence is only considered to be an aid:

Concentrates should be disposed by a licensed disposal company. In order to avoid contaminations of groundwater respectively sewage a well-working oil separator must be operated in any case.

7.0 SAFETY

Reasonable care is required when handling Schlötter chemical products. Only personnel specially trained on working with chemicals should be deployed with their handling.

EC Material Safety Data Sheets must be made available to all personnel dealing with the chemicals to ensure they have all required information about product composition, hazards identification, first-aid measures, handling and storage, exposure controls, toxicological and ecological information, etc. It is required to ensure the supply and use of suitable protective clothing and -equipment.

The user must verify the designated purpose of the electrolyte. Previous experience has shown that not all metal surfaces are suitable for a trouble-free electroplating.

The above mentioned data are made according to our best knowledge. Consistent operation of the working solution requires appropriate maintenance. Sealant SLOTOFIN GM 1620 is a process of Dr.-Ing. Max Schlötter GmbH & Co KG. It can only be operated with the products described in this technical data sheet. Use of other chemicals (also partly) will impair quality and invalidates our service- and quality commitments (quality assurance).

