

PRELIMINARY TDS



Gecko[®] 2K Retort Over Print Varnish Gravure Matt

Solvent based overprint varnish for flexible packaging.
70GL535653

70GH132871 Hardener for 2K systems – pending test result (standard performance)
70GH426403 Hardener for 2K Flexo – pending test result (optimum performance)

Description

An Ethylacetate, Polyurethane/Polyester 2-component matt varnish designed for high temperature applications. This product provides outstanding chemical and mechanical resistance.

Printing process

Gravure printing.

Flexographic printing only in combination with Acetate resistance plates.

Applications

Surface printing.

Suitable for food and beverage packaging.

Substrates: Currently only evaluated on chem PET, corona PET.

Minimum surface tension: corona PET: 52 dynes/cm

Hardener Hardener for 2 K systems GA (70GH132871), standard aromatic hardener.
Hardener for 2K Flexo; GA (70GH426403), aliphatic for high performances.

Curing conditions This product can be used in combination with the hardener 70GH132871 with the following ratio: 100 parts of varnish, 20 parts of hardener (Temp > 10°C).
This product can be used in combination with the hardener 70GH426403 with the following ratio: 100 parts of varnish, 10 parts of hardener (Temp > 10°C).

The varnish becomes tacky-free with the usual timing of the printing process.
The below mentioned fastness properties are normally achieved after 7 days at room temperature.

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Properties Before and After Sterilisation (60' @ 121°C)

Dry content Varnish 70GL535653		30% ± 2	Dry content Hardener 70GH132871		47% ± 2
	Before	After		Before	After
Adhesion	2	4	Water resistance	-	5
Nail resistance	4	5	Heat-resistance	-	220°C
Crinkle resistance	5	5			

Rating scale (1 to 5 based on Gecko product range) 1= worst value, 5= best value

Dry content Varnish 70GL535653		30% ± 2	Dry content Hardener 70GH426403		67% ± 2
	Before	After		Before	After
Adhesion	5	5	Water resistance	-	5
Nail resistance	4	5	Heat-resistance	-	220°C
Crinkle resistance	5	5			

Rating scale (1 to 5 based on Gecko product range) 1= worst value, 5= best value

Note: all technical properties are a guideline only and depend on final application. For details about exact test methods which are the basis for info about fastness properties given above please refer to the general test method overview.

Printing viscosity

Diluents	Flexographic printing 18 - 22 s DIN 4		Gravure Printing 13 – 18 s DIN 4	
Standard	Ethyl Acetate	100%	Ethyl Acetate	100%
Retarder	n-Propyl Acetate	Max 5%	n-Propyl Acetate	Max 5%

Notes

Diluents All solvents and equipment must be water and alcohol free in order to prevent non-curing of the 2 component reaction.

Mixing This product must be mixed with the hardener before the dilution. After the preparation, the 2-component mixture must be used within 8 hours.
It is recommended to prepare the 2 K mixture shortly before the start of the print run, and in the minimum appropriate amount. In case of long print runs, it is strongly suggested not to prepare all the 2 K mixture necessary for the whole job before the start, but instead to start printing with a small batch of 2 K mixture (10 – 20 kg) and regularly add to the pump tank small batches of freshly prepared 2 K mixture.

Pot Life With Pot Life is usually indicated the time in which a 2 component mixture can be used before it expires and is not usable anymore. In the printing industry there are various interpretation of the concept of Pot Life, some more focused

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on viscosity increase, other on the performance of the cured coating layer. In our TDS, Pot Life is in strong correlation with the increase of viscosity, and this may differ from the Pot Life correlated to physical and mechanical properties. As the decrease of properties could be effective before any increase of viscosity is visible, please test the application before industrial production and, as a general approach, prepare always the smallest quantity of 2K system necessary for the work, in order to use the 2K mixture as rapidly as possible. This is due to the fact that once the 2 Component are mixed together, the crosslinking reaction starts and stops only when all the reactive function have crosslinked with the other component of the mixture. The reaction speed is strongly dependent on the components of the system used.

Cleaning

The cured coating is insoluble in standard solvent used for dilution. It is necessary to prevent the drying of the products during the downtime, when the press stops it is better to leave the product in slow recirculation and at the same time lift the doctor blade.

Instructions for the use of printing inks for the production of primary food packaging

For information on the use of printing inks, varnishes and additives for the manufacture of food packaging please refer to the respective „**Statement of Composition**". This information is provided to allow the calculation of possible levels of migration of evaluated substances in a worst case situation.

The manufacturer of the finished article and the filler have the legal responsibility to prove by appropriate migration testing that it is fit for its intended purpose.

In order to maintain low residual solvents concentration in the printed film, the printer must ensure sufficient drying of the inks, especially when retarders have been added. Residual solvent content must be regularly monitored.

The inks must not be used in the manufacture of packaging where the printed ink layer is intended to come into contact with foodstuff (direct food contact).

Health & Safety

The material safety data sheets contain all relevant information for the generation of appropriate internal plant instructions. The user is responsible for all local legislation requirements.

Ink Handling

Please refer to General Guidelines for handling inks for flexible packaging.

Storage Conditions

Store the material in the original packaging at a temperature not below 5°C and not in direct contact with sunlight.