

FREOPUR-Polyurea-Gelcoats

Innovative and ready for series production.

Our new gel coat based on an aliphatic polyurea system allows a considerably lower coating thickness in comparison to conventional polyester gel coats. A further advantage is the exceptionally good UV resistance.



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The functional principle After long years of development work, first successes and series production have now been established. Polyurea, a cross-linked product of a 2C system with an amino functional A-side and an aliphatic polyisocyanate on the B-side, is the magic word.

The properties of this new product series in the FreiLacke family are highly presentable. The advantages are easy to see and are indicated in the following table by means of a sanitary gel coat:

The result

	Result	
Surface quality	Precise replication	
Stability at a load of 100 kg	No warpage	
Impact stress	200 g from a height of 100 cm	No deformation
Chemical resistance in accordance with DIN EN ISO 4628 Part I	Acetic acid 10 % Sodium hydroxide 5 % Ethanol 70 % Methylene blue 1 %	no change
Anti-slip	In compliance with DIN CES/TS 16165	Approx. 9
Scratch resistance	DIN EN ISO 1518 Part 1 (scribe stylus A)	2
Light resistance QUV-B 100 h	Colour shade deviation	dE 0.28
	Residual gloss	80 %
Solid mass	96 %	
Processing time	40 - 200 s	



Comparison of UV stability. Polyurea gel coat (bottom) and conventional UP gel coat (top). The new gel coat shows virtually no optical change after 500 hours of UV-B exposure.



Durelastic in the Technical Centre

Due to the very short curing time, cycle times can be realised in component manufacturing which almost reach those of pressed parts.

The processing of such materials takes place using special 2C high-pressure systems and forming geometry specially matched for these cycle times. A one-off investment in production processes, plant technology and mould making is therefore required. By ordering the coating system as a liquid component, additional, interesting possibilities can be realised however (colour range, design freedom, etc.). This can be clearly seen in an example of a component from the sanitary field.

An approval in terms of the mechanical system required has been obtained in this case in collaboration with the manufacturers of machinery and reinforcement materials.

Many other applications are also possible. Please do not hesitate to contact us.

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