

Cleaning and Bonding of TGIC-free powder coatings

Some of our customers have noticed since the begin of 1998 different problems at cleaning and bonding powder coated aluminium profiles and -sheets, e.g. a mat effect, the formation of scratches, adhesion problems.

After we had heard of this problem, we have immediately started with a market survey (development of the powder coatings/formulas). The reason of the difficulties encountered was that the hardening systems of the polyester powder coatings had been modified to TGIC-free (triglycidylisocyanurate) systems.

This modification is linked with changes of the properties of polyester powder coated surfaces. The solvent- and scratch resistance of these powder coatings have changed, compared with the "old lacquer formulas" – the "new systems" are not so resistant.

Furthermore, the exchange of the hardening systems in the formulas of these powder coatings had the consequence that other additives (for the UV-resistance, the flow properties, etc.) had to be adapted. For example, the paraffin part has been increased. This means that, due to the modified surface tension of the lacquer systems, the adhesion properties of the adhesives and sealing compounds have been reduced. Because of the tests made until now, these „new powder coated surfaces“ must absolutely be cleaned before the bonding.

If you already use profiles / sheets with the new lacquer systems, it is absolutely necessary that you carry out sufficient qualifying examinations with the **COSMOFEN** cleaning agents and adhesives, even if they have been used for the cleaning and bonding since several years without any problem.

It seems that, with the interest of an „environment-friendly“ formula, some very important aspects for the further processing of coated surfaces have not been considered. We are now trying to clear this problem with the concerned powder coating producers, in order to offer you an optimised solvent cleaner.

The essential product characteristics of our cleaning agents for the "aluminium construction" are listed on page 2 in our delivery programme overview.

Because of our own experience until now concerning the subject "Bonding/Sealing" of these surfaces with adhesives and sealing compounds, good results / adhesion properties have been obtained after the cleaning of the surfaces with e.g. **COSMOFEN 50**, and partly with **COSMOFEN 60**.

We recommend you, because of the multitude of used surfaces/lacquer formulas, to carry out your own qualifying examinations.

For questions or wishes or advices concerning this important matter, our application technique is pleased to be at your disposal (direct dialling: +49(0)2773/815-274).

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Delivery Programme Overview:

COSMOFEN 50	quickly drying intensive cleaner for anodised profiles. Removes fresh and also hardened up adhesive remainders and other impurities. Also suitable for the preliminary cleaning of powder coated surfaces before the bonding and sealing.
COSMOFEN 60	quickly drying cleaner with a slight fragrance, used for annealing lacquered or anodised profiles. Removes fresh adhesive remainders and other impurities. Also suitable for the preliminary cleaning of powder coated surfaces before the bonding and sealing.
COSMOFEN 65	mild cleaner with a slight fragrance, especially suitable for annealing lacquered profiles (TGIC-free polyester powder coatings). Removes fresh adhesive remainders and other impurities.
COSMOFEN 70	slowly drying cleaner with a slight fragrance (pleasant own odour) for annealing lacquered or anodised profiles. Removes fresh adhesive remainders and other impurities. Not suitable for TGIC-free polyester powder coatings.
COSMOFEN 80	cleaner with a slight fragrance, with surface protection, for annealing lacquered or anodised profiles. Removes fresh adhesive remainders and other impurities.
COSMOKLAR COLOR	non-combustible cleaner for aluminium profiles, on surfactant water basis, non-abrasive. Intensive cleaner for all annealing lacquered, anodised and additionally wet lacquered sensitive surfaces. Also cleans without leaving any stripes glass surfaces and different plastic surfaces. Free from phosphates, pH-neutral, biodegradable.
COSMOKLAR	non-combustible cream cleaner, on surfactant water basis, slightly abrasive. Free from phosphates, pH-neutral, biodegradable, contains antibacterial substances being gentle to the skin.

Please consider our advices in the corresponding technical data sheet!

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Our instructions for use, processing directives, product- or performance indications, as well as other technical statements are only general guidelines; they only describe the nature of our products (determined value at the production time) and their performance, but they give no guarantee in accordance with paragraph 443 of the BGB (Civil Code). Due to the variety of application purposes for each product, and due to a lot of different particular conditions (e. g. processing parameters, material properties, etc.), the user has to carry out his own individual qualifying tests. Our consultation in application technique, verbal and in writing, as well as with tests, is offered free of charge and is not legally binding.

These documents replace former issues