FreiLacke

Pump it up!

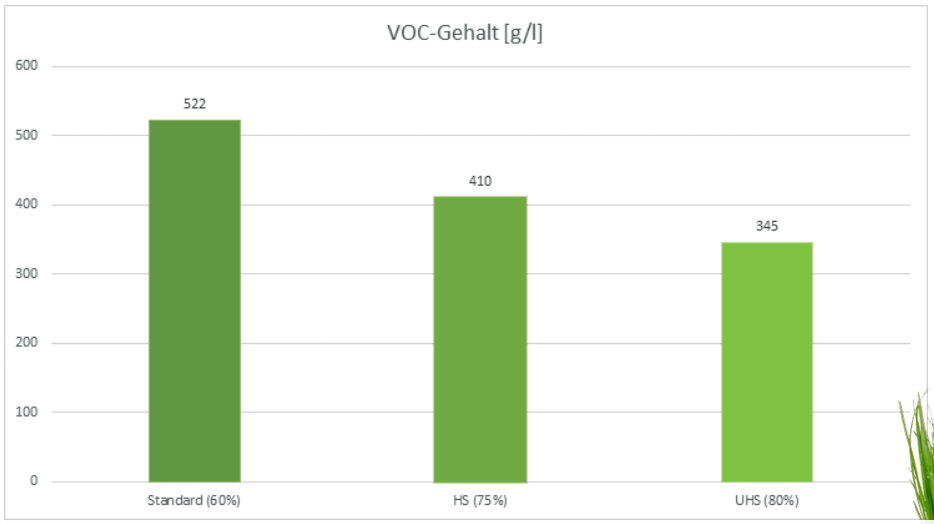
Innovative high-solid and ultra-high-solid coating systems for pumps, compressors and industrial applications

Why High-Solid or Ultra-High-Solid?

For the sake of the environment!

The use of high solids content coatings can significantly reduce the emission of organic solvents (VOCs). FreiLacke distinguishes between High-Solid coatings (HS for short) and Ultra-High-Solid coatings (UHS for short).

The designations HS and UHS refer to the solids content of a coating. For FreiLacke, high solids means that the proportion of solids in the coating is 70 % (by weight) or more. If the solids content is 80 % or higher, the paints fall into the Ultra-High-Solid category.



Fast drying – great energy-saving potential

High solids content in combination with a fast drying process is achieved with the primer UR1407 and the top coat UR1984.

After drying for 90 minutes at room temperature, the coated parts are packaging ready and the drying oven can be switched off, thus enabling large quantities of energy to be saved. Or the oven remains in operation and the throughput time can be shortened even further, thereby increasing the throughput.

Epoxy or polyurethane?

Thanks to intensive development work, HS and UHS coatings can be offered both as 2C polyurethane systems and as 2C UHS epoxy systems. All formulations are free of reactive thinners. Good for people and the environment.

A further advantage with regard to environmental protection is the use of renewable raw materials.

100 BETRIEBE FÜR RESSOURCEN-EFFIZIENZ BADEN-WÜRTTEMBERG
Emil Frei GmbH & Co. KG
Bräunlingen

UR1407 and UR1984 composition

Field of pumps, compressors and industrial applications

Quick: Packaging ready after 90 min at room temperature.

Economic: Good efficiency of application, reduced energy costs.
Greater capacity or higher number of units.

Resistant: Very good protection against corrosion and chemicals.
(up to C2 – single-layer UR1984, up to C4 – in combination with UR1407, for C5 - additional primer ER1926 required)

Attractive: Very good flow and fullness, wide colour range available, also according to customer requirements.

Robust: Easy processing due to high stability and popping limit.

Uncomplicated: Ready-to-use on delivery (curing agent has to be added)
No additional dilution required.
Same curing agent and same mixing ratio of PU primer and top coat to reduce processing errors

UHS single-layer coating

The 2C-PU-UHS primer UR1937 can also be applied very well as a single-layer coating. 750 h on shot blasted steel are passed without any problems in the salt spray test. The coating is available in all RAL colours, or also specially coloured according to customer requirements.

Thanks to better light resistance compared to epoxy systems, parts primed with UR1937 can also easily be stored outdoors and recoated after cleaning. This system is characterised by 80 % solids content in the ready-to-use condition, easy processing (pneumatic, Airmix, Airless and ESTA application possible) as well as excellent resistances.

Thick layers? No problem!

Based on our 2C-UHS epoxy primer ER1936, layer thicknesses of up to 400 µm dry layer thickness can be achieved in a single operation.

Of course, ER1936 can also be applied in normal layer thicknesses of 60-80 µm, for example, in combination with various HS and UHS top coats.

These two-layer structures achieve salt spray resistances of more than 1000 hours. For even higher corrosion resistances or for other requirements of the coating surface, we are happy to develop customised coating solutions.

3 x without isocyanate please

Polyisocyanate-based coatings cannot be used in some 2C applications. The two High-Solid types – ER1945 as a textured coating and ER1957 as a smooth coating – based on epoxy resin were specially developed for this purpose. Both coatings are suitable for indoor use and have outstanding resistances to a variety of chemicals such as clove oil and tetrazin.

If no curing agent is to be used, the KL1774 one-component synthetic resin-based coating is available as an isocyanate-free alternative.
KL1774 is characterised by its very high solids content of 80 % and can be used both as a primer and as a single-layer coating.

Ultra-High-Solid-platform technologies

VOC-compatible coating – with significantly reduced solvent consumption.

The steadily growing requirements placed on surface coatings and the continuous reduction of the total VOC content in paints and coatings led FreiLacke to develop Ultra-High-Solid systems or UHS for short.

In the field of conventional coatings, completely new coating systems with a solids content of up to 80 percent by weight and a VOC value < 350 g/l were developed and brought to series-production readiness for this purpose.

Primers

Product name	Solids content	Properties
UR1407M	75 %	Very good grindability and corrosion protection properties, broad adhesion on metals, fastest drying at room temperature, can be painted over wet-in-wet, packaging ready after 60 min (at 60 µm DFT)
UR1937H	80 %	Very good corrosion protection, high resistances and good drying. "Wet-in-wet" application with solvent-based 2C-PU systems possible. Short-term intermediate storage of components outdoors possible before the top coat is applied. Can also be used as a single-layer coating indoors.
ER1936H	80 %	Excellent corrosion protection and resistance to chemicals. Thick layer processing, dry up to 400 µm, possible in a single operation.
KL1774M	80 %	Low cost, air drying 1K primer with very high solids content

Top coats

Product name	Solids content	Properties
UR1984H	75 %	Fastest drying at room temperature, packaging ready after 90 min. Due to the good single-layer adhesion on various metals, it can also be used as a single layer indoors.
GS1080	80 %	Textured coating with very high solids content and good drying, for VOC-compatible coating. Colour and texture can be offered as a system coating to match various powder coatings.
ER1945	77 %	Epoxy resin-based textured coating for isocyanate-free coating indoors. Outstanding chemical resistances. Colour and texture can be offered as a system coating to match various powder coatings.
ER1957	77 %	Epoxy resin-based top coat for isocyanate-free coating indoors. Outstanding chemical resistances. Colour and gloss level can be offered as a system coating to match various powder coatings.

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