FreiLacke

Build your highway!

Innovative High-Solid and Ultra-High-Solid coating systems for vehicle construction

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
UR1937H	80 %	Very good corrosion protection, high resistances and good drying. "Wet-in-wet" application possible after short intermediate flash-off times. Short-term intermediate storage of components outdoors possible before the top coat is applied. Can also be used as a Singlelayer coating indoors.
ER1936H	80 %	Excellent corrosion protection and resistance to chemicals. Thick layer processing, dry up to 400 µm, possible in a single operation. "Wet-in-wet" application possible after short intermediate flash-off times.

Top coats

Product name	Solids content	Properties
UR1409	80 %	Very high gloss and low haze. Optimum flow properties. Very good resistances, especially against UV radiation.

Primers

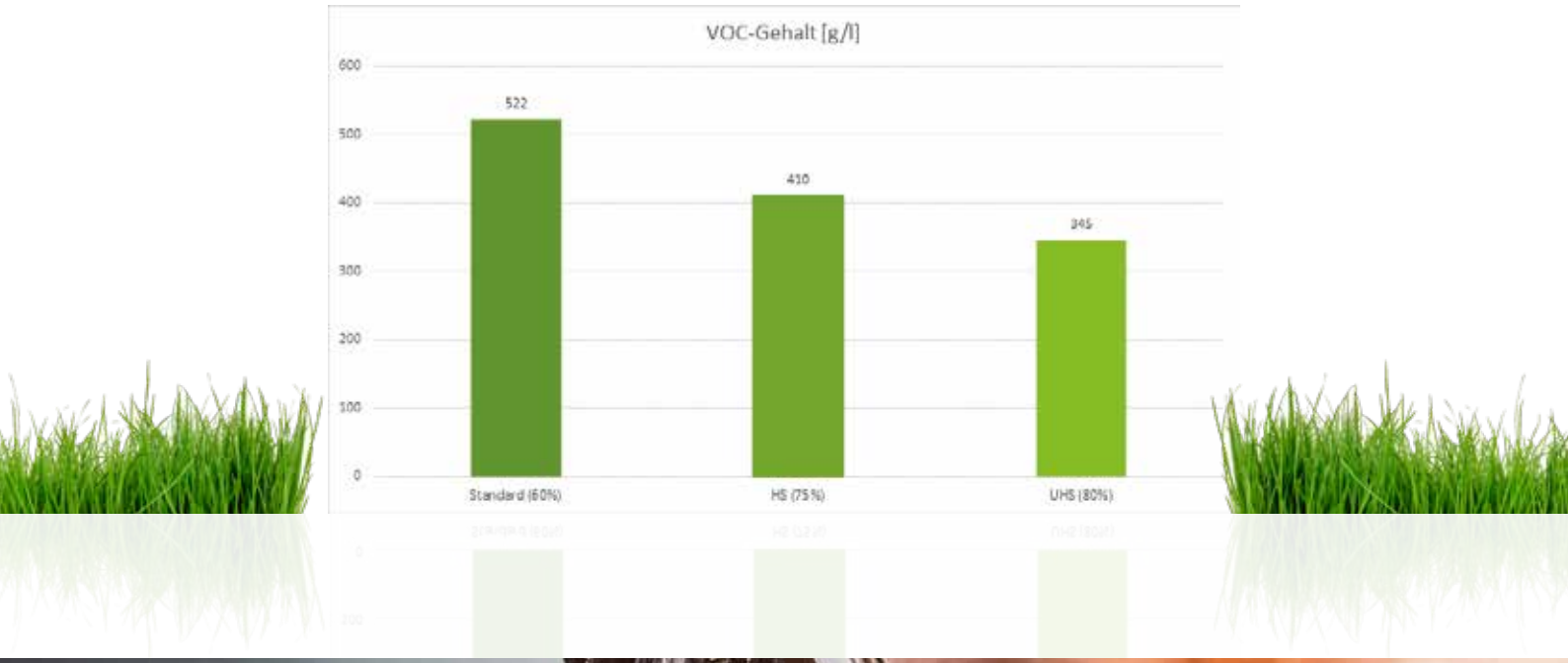
Product name	Solids content	Properties
UR1422	80 %	Standard system with good corrosion protection and resistances.
UR1424	80 %	More abrasion resistant than UR1422 with the same good corrosion protection properties.
UR1426	80 %	Optimised in terms of flow and gloss.

Why High-Solid or Ultra-High-Solid?

For the sake of the environment!

The use of coatings with a high solids content 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 designation is coupled to the respective solids content of the coating system.

At FreiLacke, for example, the HS types have a solids content of at least 70 % and the UHS types at least 78 % in the ready-to-use condition.



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

Modern raw materials

Our UHS coatings use the latest generation of raw materials. This allows us to develop industrial coatings that have a very high solids content and good VOC values while offering easy and uncomplicated processing.

After adding the curing agent, all the coatings are ready for use and do not need to be further diluted. Nor do the coatings need heating up during processing, as existing equipment can be used for processing.

Sustainable occupational health and safety

Thanks to intensive development work, we are able to formulate our UHS epoxy systems completely free of reactive thinners without sacrificing performance. This significantly reduces the likelihood of skin irritations or respiratory problems.

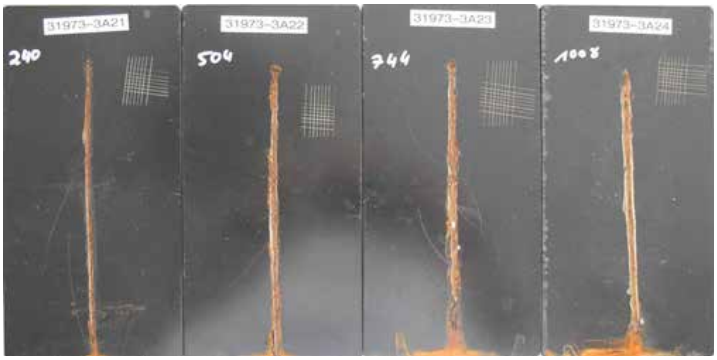
A further advantage with regard to environmental protection is the use of renewable raw materials.

UHS primers for top corrosion protection requirements

Whether based on epoxy resin or 2C-PU, both primers show perfect results even under loads of more than 1000 h in the salt spray test on shot blasted steel. These primers are also characterised by their simple processing using Airmix, electrostatic or also pneumatic atomisation without heating processes with good flow properties. In order to accelerate the coating process, the UHS primers can also be coated over wet-in-wet after a short flash-off period.

UR1937H

The advantage of the 2C-PU-UHS primer UR1937 is the use of a uniform curing agent which is also used for the subsequent UHS top coat.
What's more, this primer can also be stored outdoors before a top coat is applied.
In some areas it is also possible to apply a Singlelayer coating with UR1937.



ER1936H

For the highest demands in terms of corrosion protection and chemical resistance. ER1936H is suitable for the normal layer range of 60-80 µm as well as for thick layer application of up to 400 µm dry layer in a single operation.

Time and energy cost savings due to UHS Singlelayer systems

Owing to their corrosion protection properties and excellent weather resistance, the UR1422 (standard system), UR1424 (higher abrasion resistance) and UR1426 (high-gloss applications) systems are excellent when used as Singlelayer systems, especially outdoors.

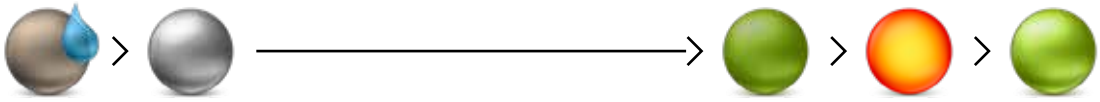
The possible very high popping-free dry layers of more than 200 µm ensure reliable processing. In addition, the systems contribute significantly to a reduction of VOCs due to their high solids content of 80 %.

The greatest advantage for the user, however, is the possibility of Singlelayer processing.
This eliminates one complete process step – the priming. This saves energy, time and even more organic solvents.

Comparison of coating processes

Conventional coating process with two coating layers (primer + top coat):

Singlelayer coating:



Ultra-High-Solid top coat UR1409 for the perfect finish

Perfect finish due to a brilliant gloss of > 80E at an angle of 20° and low haze values independent of the colour. UR1409 also impresses with its smooth flow properties as used for vehicles. This top coat also provides lasting protection against harmful UV radiation and chemicals.

FreiLacke

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- Bau und Sanitär
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