



Factsheet

wieland
wicoatec

wico[®]pro

Reduces scaling and fouling for optimized process control

wico[®]pro coatings reduce deposits on metal surfaces. At the same time, the coatings protect the metal from aggressive media.

The layers consist mainly of nanometer-thin, elastic SiO₂.

Through deposition at the gas phase, even the smallest parts of interior surfaces can be coated.

The coatings have no influence on the usual manufacturing tolerances of the components.

The wico[®]pro layers retain thermal conductivity, make cleaning easier and extend cleaning cycles.

As a result, the costs and effort for maintenance and servicing can be reduced and the service life

increased.

Fields of application:

Heat exchanger, evaporator, dense packings, circuit printed heat exchanger, metal foams, etc.


Corrosion protection	●●●●○
Rendering inert	●●○○○
Anti fouling	●●●●●
Bonding agent	○○○○○

Properties	
Coating process	Chemical Vapour Deposition (CVD)
Coating material	SiO ₂ , organically functionalized
Coating temperature	250 - 300 °C
Color	Transparent iridescent
Layer thickness	150 - 800 nm *
Type of coating	Inside coating Outside coating
Substrates	Aluminum, Copper, Steel, further metals on request
Temperature resistance	max. 400 °C *
Corrosion protection factor	> 1.000 (in 25 % -H ₂ SO ₄ 65 °C)
Additional features	Hydrophilic (up to about 40 °) Lipophilic
Approvals	ROHS-, REACH-, CP25-compliant

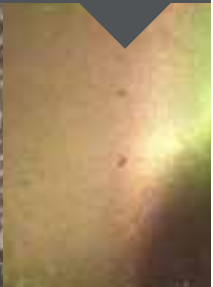
* according to application

wico[®]pro

Clean surfaces for efficient & low maintenance process equipment.



uncoated



wico[®]pro

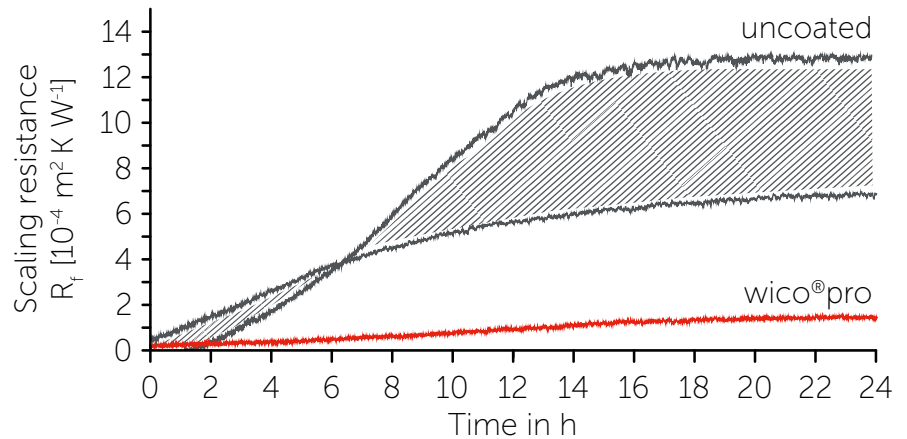


wico®
pro

Structured packing of an evaporator unit for the chemical industry.

Less deposits

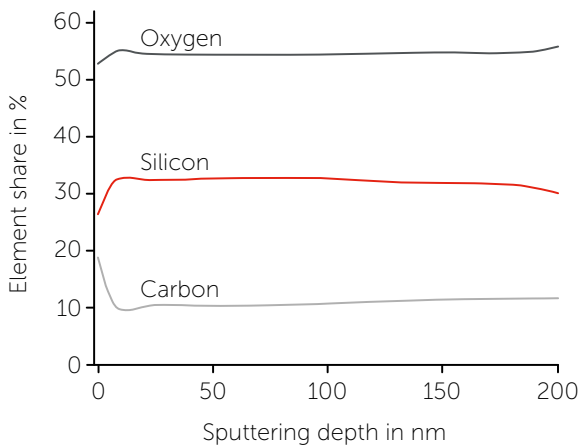
The formation of deposits on coated specimens is reduced by a factor of 5 compared to uncoated specimens.



Scaling resistance of stainless steel coupons that were in an $\text{Na}_2\text{SO}_4 + \text{Ca}(\text{NO}_3)_2$ solution at 65 °C for a period of 24 h

Long-lasting functionality

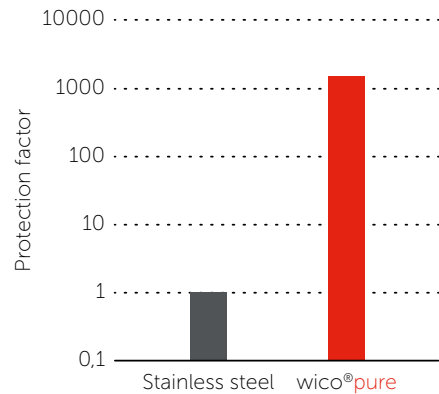
Due to its specific composition wico®pro represents durability.



XPS measuring to characterize wico®pro.

Corrosion protection

wico®pro resists even aggressive media like NO_x , SO_2 , H_2S , NH_3 or ozone.



Protection factor: Calculated from metal removal of stainless steel (1.4404), uncoated compared to wico®pro protected after 1 h in 25 % H_2SO_4 at 65 °C.

Summary

- Suitable for metals and many ceramics
- Reduces deposits
- Protection against aggressive media
- Extended component life
- Reduced maintenance effort and costs
- Reduced downtime
- Higher process reliability
- Better heat transfer over service life

Contact

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