

# Dynasytan® SIVO 112

## SIVO® SOL Technology for coating systems

### Technical data

Properties and test methods	Value	Unit	Method
Density	approx. 1.058	g/cm <sup>3</sup>	DIN 51757
Viscosity	approx. 2	mPa.s	DIN 53015
Flash Point	> 95	°C	EN 22719
Boiling Point	approx. 97	°C	ASTM D-1120

### Registrations

#### Dynasytan® SIVO 112

EINECS/ELINCS (EU):	Yes
AICS (Australia):	Yes
DSL/NDSL (Canada):	No
PICCS (Philippines):	No
TSCA (USA):	No
IECSC (P.R. China):	Yes
ENCS (Japan):	*
ECL (South Korea):	Yes
* = upon request	

Dynasytan® SIVO 112 resembles a hydro- and oleophobic additive for Dynasytan® SIVO 110, a novel water-borne, sol-gel binder system.

The shelf life of Dynasytan® SIVO 110 is shortened upon addition of Dynasytan® SIVO 112. As of such in general two-component systems are preferably formulated. Dynasytan® SIVO 112 allows for the formulation of weather-resistant<sup>1)</sup> sol-gel coatings which additionally exhibit „easy-to-clean“ properties.

<sup>1)</sup> In this context „weather-resistant“ is defined as follows: > 1000 h of stability against QUVA-irradiation (practically non-visible change of optical surface properties). Test conditions: 8h time cycle (4h UV-A 340 irradiation, peak of emission at 340 nm, intensity of irradiation at the substrate's surface: 0,92W/m<sup>2</sup> at 340 nm), Temp. 55 °C, 3h 55 min condensation at 45 °C, 5 min water spray

### Safety and handling

Before considering the use of Dynasytan® products please read its Safety Data Sheet (SDS) thoroughly for safety and toxicological data as well as for information on proper transportation, storage and use. The Safety Data Sheet is available after registration on our website [www.dynasytan.com](http://www.dynasytan.com) or upon request from your local representative, customer service or from Evonik Resource Efficiency GmbH, Product Safety Department, E-MAIL [sds-hu@evonik.com](mailto:sds-hu@evonik.com).

### Packaging, storage and shelf life

Dynasytan® SIVO 112 is supplied in 25 kg PE drums and 200 kg PE-inlined steel drums.

Due to its water content Dynasytan® SIVO 112 must be stored above freezing temperature. Storage temperatures must not exceed +40 °C.

In original sealed containers Dynasytan® SIVO 112 has a shelf life of min. 12 months from delivery.

## Properties and applications

Dynasylan® SIVO 112 should be metered into Dynasylan® SIVO 110 under constant stirring. Mixing procedure should commence at room temperature. Upon formulation of Dynasylan® SIVO 110 with Dynasylan® SIVO 112 the final application is recommended within 24h.

Dynasylan® SIVO 112 - modified Dynasylan® SIVO 110 can be processed as usual (see product information of Dynasylan® SIVO 110 for further details).

For „easy-to-clean“ applications the following mixture is recommended:

50 wt.-% of Dynasylan® SIVO 110 50 wt.-% of Dynasylan® SIVO 112. Approx. 0.1-0.2 wt.-% of Tego Dispers 745W should be added as processing agent.

Dynasylan® SIVO 112 – modified coatings based on Dynasylan® SIVO 110 exhibit an improved weathering resistance. Upon 500 h of QUVA-irradiation visible optical changes such as cracks or delamination can occur on surfaces covered with a Dynasylan® SIVO 110 - coating. On the contrary Dynasylan® SIVO 112 – modified coatings remain significantly more resistant. Hence almost no visible changes can be found upon 1000 h QUVA-irradiation.

## Reactivity

Dynasylan® SIVO 112 ist a water-borne, organofunctional silane system which exhibits hydro- and oleophobic properties. It can be mixed with Dynasylan® SIVO 110 in any proportion. Hydro- and oleophobicity of the coating can be custom-tailored depending on the dosage. On smooth surfaces a static contact angle (deionized water) of approx. 110 °C can be established.

Dynasylan® SIVO 112 is an oligomeric siloxane with contains reactive silanol groups. Due to the high degree of silanol functions it is possible to chemically crosslink with Dynasylan® SIVO 110 during condensation. As of such the hydro-/oleophobic additive is implanted into the matrix of the sol-gel coating.

Dynasylan® SIVO 112 is a low viscous liquid and can be easily mixed with Dynasylan® SIVO 110. During formulation no positive mixing enthalpy is observed. Nevertheless, care should be taken to avoid any temperature peaks or other accompanying, unwanted effects in combination with other components during the final ready-for-use coating system. Observance of test formulations at a smaller scale is thus recommended.

Basic mixtures of Dynasylan® SIVO 110 with Dynasylan® SIVO 112 should be applied within approx. 24 h.

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