PSB

White silicate paint

cnes
Licence n°83/CNES/6304

Coating characteristics (1/2)

Polymer matrix	Potassium silicate
Pigment	Zinc orthotitanate
Solvent	Water
Density	1.50 ± 0.05
Solids content	44 % ± 2 %
V.O.C.	85 g / L
Solar absorptance	$\alpha_{2\pi s}$ = 0.14 ± 0.02 @ 130 µm $\alpha_{2\pi s}$ = 0.12 ± 0.02 @ 150 µm On EPOX PSB primer: $\alpha_{2\pi s}$ = 0,15 ± 0,02
IR Emittance	$\varepsilon_{N,IR}$ = 0.90 ± 0.04 ε_C = 0.88
Outgassing	in compliance with ESA standard: ECSS-Q-70-02A
Electrical surface resistance	$R_S > 10^{12}$ Ω/□ (Under vaccum)
Surface potential	25 V @ 18°C (15 keV @ 1nA/cm²) 50 V @ 18°C (20 keV @ 5nA/cm²) 900 V @ -150°C (20 keV @ 1nA/cm²)
Standard thickness	120 µm to 150 µm dry on AU4G 8 crossed coats 70 µm to 80 µm secs on composite 4 crossed coats
Theoretical Consumption	1280 g /m² of product @ 140 µm i.e. 4 g dry / m² and per dry µm

Definition

This white silicate paint presents excellent thermo-optical properties and a very good stability to UV irradiation.

Aspect: mat white

AFNOR NFT 36005 classification: Family I Class 10b1.

Purpose: Developed by CNES, PSB paint may find applications in the following fields: space Industries, vacuum technologies, optics....

References: satellites VEGA - METEOSAT OP - PHOBOS - INTERBALL - PRONAOS - SPOT 4 - DFS - ATV

Properties

Test carried out	CNES qualification report
. Thermal cycling under vacuum	83/CT/PRT/SST/TH/004
. Moisture tests	CR-409/CT/AE/MTE/TH
. Outgassing	DTS/AE/MTE/TH/00-019
. Resistance to space environment	DTS/AE/MTE/TH/03-094
	DCT/TV/TH/NT05-1043

Application parameters

The application of EPOX PSB primer is prerequisite on composite.

PSB paint must be mixed thoroughly before use. Add PSB thinner to get the right viscosity.

Non-contractual technical data: for your information only
For further information, please contact us.

map@map-coatings.com
www.map-coatings.com

MAP - ZI Rue Clément Ader - 09100 PAMIERS (France) Tél. : 33 5 34 01 27 00 - Fax : 33 5 61 60 28 77
Société Anonyme à Directoire et Conseil de Surveillance au capital de 1 500 000 €
RCS Foix B 334 860 525 - SIRET 334 860 525 00032 - NAF 243Z - TVA N° FR20 334 860 525

PSB

White silicate paint

cnes
Licence n°83/CNES/6304

Coating characteristics (2/2)

Surface preparation	On raw AU4G: Crossed sandpapering, dust removal with compressed air, cleaning by immersion or rubbing with Forane 141b or equivalent, then with acetone. On composites: Crossed sandpapering, dust removal with compressed air, cleaning by rubbing with Forane 141b or equivalent, then with acetone. *(For further information, please contact us).* **Any sticking on the paint being absolutely prohibited, the sticking areas must be masked before any paint application.**
Dilution	0 % to 10 % of PSB thinner
Viscosity	35s to 39s AFNOR cup 2.5 @ 20°C
Filtration	80 µm nylon filter
Applying conditions	18°C ≤ T° ≤ 25°C 40 % < RH < 70 %
Covering time	Let dry between coats until you get a mat finish
Drying conditions	T° about 20°C RH > 40 % **5 days drying before any control test (adhesion, thickness, etc.)** **4 weeks drying before any ageing test.**

For information only:

Small surfaces:

Spray gun: KREMLIN J4, Nozzle 12, AM head, gravity alimentation

Output: oval jet, 2 mist coats: 1 ¼ turn
1 thin crossed coat: 1 ¾ turn
4 to 8 crossed coats: 2 to 2 ½ turns

Pressure: 2 bars

Vector gas: Compressed air

Large surfaces:

Spray gun: KREMLIN SKM 18, Nozzle 14, N2 head, gravity alimentation

Output: oval jet, 2 mist coats: 2 turns
1 thin crossed coat: 2 ½ turns
4 to 8 crossed coats: 3 turns

Pressure: 2.4 bars

Vector gas: Compressed air

Packaging

1Kg

Storage

Up to 1 month in original unopened packaging @ 20°C +/- 2°C.

Safety data

Precautions — This product is not flammable. This preparation is not classified as a health hazard according to 1999/45/CE directive.

Labelling — This preparation was classified in compliance with the directives in effect.

Transport — Please refer to our latest safety datasheet.

Non-contractual technical data: for your information only
For further information, please contact us.

map@map-coatings.com
www.map-coatings.com

MAP - ZI Rue Clément Ader - 09100 PAMIERS (France) Tél. : 33 5 34 01 27 00 - Fax : 33 5 61 60 28 77
Société Anonyme à Directoire et Conseil de Surveillance au capital de 1 500 000 €
RCS Foix B 334 860 525 - SIRET 334 860 525 00032 - NAF 243Z - TVA N° FR20 334 860 525