

PN

Non conductive black silicone paint

Technical data sheet: RS 121

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Coating characteristics

Polymer matrix	silicone
Pigment	Carbon black
Solvent	Aromatic
Density	1.20 ± 0.05
Solids content	48 % ± 2 %
V.O.C.	674 g/L
Solar absorptance	$\alpha_{2\pi S} = 0.95 \pm 0.02$
IR Emittance	$\epsilon_{N,IR} = 0.90 \pm 0.03$
Outgassing	in compliance with ESA standard: ECSS-Q-70-02A
Electrical surface resistance	$R_s \geq 2.10^9 \Omega/\square$
Electrical surface potential	0 volt @ +25°C, -50°C & -150°C
Standard thickness	30 µm to 50 µm dry, 1 mist coat + 2 crossed coats
Theoretical consumption	190 g / m ² of product @ 40 µm 2.41 g dry / m ² and per dry µm
Surface preparation	Light alloys: sanding if necessary & cleaning 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.
Base/hardener weight ratio	92 / 8
Thinner	About 15 % of PN thinner
Filtration	80 µm nylon filter
Viscosity	12s to 14s AFNOR cup 4 @ 20°C
Pot life	2h @ 20°C
Applying conditions	18°C ≤ T° ≤ 25°C & 40 % ≤ RH ≤ 60 %
Covering time	Let dry 10 min between coats
Drying conditions	18°C ≤ T° ≤ 25°C & 40 % ≤ RH ≤ 60 % 5 days drying minimum then 48h @ 70°C before any control test (adhesion, thickness, etc.) 4 weeks drying before any ageing test

Definition

Two component thermal control paint for satellites with excellent thermo-optical properties and very good performance at low temperature.

Aspect: **mat black**

AFNOR NFT 36005 classification: Family I Class 10c.

Purpose: developed by CNES, PN paint may find applications in space industries, vacuum technologies.....

Properties

Test carried out	CNES qualification report
Thermo-optical properties	DCT/TV/TH/NT04-697 Ed.3
Thermal cycling	
Outgassing	
Resistance to U.V. test	
Resistance to atomic oxygen	
ESD tests	

Application parameters

Mix PN paint's two components thoroughly before use, then add **PN thinner** to get the right viscosity.

The application of PSX primer on raw or treated aluminium, electrochemical nickel is prerequisite (other substrate: please contact us).

For information only:

Spray gun: KREMLIN J4, Nozzle 12, AM head

Output: 2 turns, oval jet

Pressure: 2 bars

Vector gas: Compressed air

Packaging

1Kg (0.92 Kg base + 0.08 Kg hardener)

Storage

3 months in original unopened packaging at 20°C +/- 5°C away from humidity, without altering the properties.

Safety data

Precautions ➤ General precautions in use for the application of paints containing solvents. Flammable product. Never handle near a flame. Store in a fresh & ventilated area.

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.

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