



Technical data sheet: RS 129
 Creation: December 2005
 Revision: 5
 Date: 07/04/2008
 Page 1/1



Licence n°04/CNES/0613

PNAS

Antistatic black silicone paint

Coating characteristics

Polymer matrix	Silicone
Pigment	Carbon black
Solvent	Aromatic
Density	1.20 ± 0.05
Solids content	48 % ± 2 %
V.O.C.	697 g/L
Solar absorptance	$\alpha_{2,\pi S} = 0.96 \pm 0.02$
IR Emittance	$\epsilon_{N,IR} = 0.90 \pm 0.03$
Outgassing	in compliance with ESA standard: ECSS-Q-70-02A
Electrical surface resistance	$5 \cdot 10^6 \Omega/\square \leq R_s \leq 1 \cdot 10^9 \Omega/\square$
Standard thickness	30 µm to 50 µm dry, 1 mist coat + 2 to 3 crossed coats
Theoretical Consumption	190 g/m ² of product @ 40 µm 1.92 g dry /m ² per dry µm
Surface preparation	On light alloys: sanding if necessary and 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 25 % of PNAS thinner
Filtration	80 µm nylon filter
Viscosity	12s to 14s AFNOR cup 4 @ 20°C
Pot life	2 h @ 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, PNAS paint may find applications in the following fields: space industries, vacuum technologies

Satellite references : SIRAL 2

Properties

Test carried out CNES qualification report

- . Thermo-optical properties
 - . Thermal cycling
 - . Outgassing ➤ DCT/TV/TH/NT04-822 Ed. 2
 - . Resistance to U.V., ATOX
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- . Thermal cycling from -170°C to +230°C @ atmospheric pressure ➤ DCT/TV/TH/NT06-6603 Ed. 1

Application parameters

The application of PSX primer is prerequisite.

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

For information only:

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

