



Technical data sheet: RS 128
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 Page 1/1



Licence n°04/CNES/0613

PNC..... Conductive black silicone paint

➤ Coating characteristics

Polymer matrix	➤ silicone
Pigment	➤ Carbon black
Solvent	➤ Aromatic
Density	➤ 1.14 ± 0.05
Solids content	➤ 48 % ± 2 %
V.O.C.	➤ 670 g/L
Solar absorptance	➤ $\alpha_{2ms} = 0.98 \pm 0.02$
IR Emittance	➤ $\epsilon_{N,IR} = 0.91 \pm 0.03$
Outgassing	➤ in compliance with ESA standard: ECSS-Q-70-02A
Electrical surface resistance	➤ $R_s \leq 1.10^6 \Omega/\square$
Standard thickness	➤ 30 µm to 50 µm dry, 1 mist coat + 2 crossed coats
Theoretical consumption	150 g / m ² of product @ 40 µm 1.96 g dry/m ² and by dry µm
Surface preparation	➤ 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 PNC 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, PNC paint may find applications in many fields: space industries, vacuum technologies...

Satellite references: PLEIADES - SPIRALE

➤ Properties

Test carried out CNES qualification report

- . Thermo-optical properties
- . Thermal cycling
- . Outgassing
- . Resistance to U.V., ATOX ➤ DCT/TV/TH/NT04-1232 Ed.3
- . ESD tests
- . Optical properties (BRDF curve)

➤ Application parameters

The application of PSX primer is prerequisite.

Mix PNC paint's two components thoroughly before use, then add **PNC 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 data sheet.

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

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