

DuPont 5870

SILVER/SILVER CHLORIDE COMPOSITION FOR SCREEN PRINTING

Technical Data Sheet

Product Description

DuPont 5870 is a solvent-based silver/silver chloride composition designed for screen printing onto polyester film. It is suitable for use as an electrocardiogram (EKG) electrode or a reference counter electrode for electrochemical sensors.

Product Benefits

- Low electrode polarization
- High Conductivity
- Excellent stability on contact with hi salt gels

Processing Printing

DuPont 5870 should be thoroughly mixed with a plastic or coated spatula before use. If settling is found after long storage, mix and then jar-roll composition sample overnight before use. It is best to use a polyester screen when printing to minimize contact with reactive metals. Recommended printing environment temperature 19 - 25°C and relative humidity 45 - 55%.

Drying

Box oven: 120°C for 8-10 minutes
Reel-to-Reel : 140°C for 3-4 minutes

Clean-up Solvent

Ethylene glycol diacetate or dipropylene glycol methyl ether.

Thinner

DuPont 8210 may be used sparingly for slight adjustments to viscosity or to replace evaporation losses. However, the use of too much thinner or of a non-recommended thinner may affect the rheological behaviour of the material and its printing characteristics.

Table 1
Typical Physical Properties

Test	Properties
Density (g/cc)	3.15
Cross Hatch Adhesion (B) [ASTM Norm D3359078]	5
Coverage (cm ² /g) [Printed with 325 stainless steel mesh]	Approx. 200
EKG Properties	
DC offset (mV)	<5
AC Impedence (Ω)	<60
SDR	
DC offset after 5 sec (mV)	<20

Table 2
Composition Properties

Viscosity (Pa.S) [Brookfield 0.5 RVT, Utility cup & spindle SC4-14/6R, 10 rpm, 25°C]	30 - 40
Solids (150°C)[%]	81.0 - 83.0
Thinner	DuPont 8210
Ag:AgCl ratio	80/20

Table 1 & 2 show anticipated typical physical properties for DuPont 5870 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Equipment Consideration

Only print-treated polyester film substrate should be used. DuPont 5870 can also be printed over silver (DuPont 5000, DuPont 5025) or over carbon (DuPont 7102). Care should be taken to minimize contact of silver/silver chloride compositions with metals, especially reactive metals such as aluminum or brass, no contact should occur. Components made of these materials can be protected by taping or covering with an inert material.

Storage and Shelf Life

Containers should be stored, tightly sealed, in a clean, stable environment at room temperature (<25°C). Shelf life of material in unopened containers is six months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

Safety and Handling

For Safety and Handling information pertaining to this product, read the Material Safety Data Sheet (MSDS).

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