DuPont 6277

SILVER/PALLADIUM CONDUCTOR

Technical Data Sheet

Product Description

DuPont 6277 is a general purpose microcircuit conductor offering excellent adhesion, fired density and wide processing latitude. It has been designed to give high yields and to be cost-effective in demanding, commercial circuit applications.

Product Benefits

- High thermal cycle and long term aged adhesion
- Broad process latitude: insensitive to firing temperature, profile, refiring and thickness
- Excellent solderability
- Compatible with DuPont QS87 Resistor Series

Processing

Printing

DuPont 6277 prints easily using 200-325 mesh stainless steel screens with a 10-15 µm emulsion, at printing speeds up to 25 cm/s (10 in/s).

Drying

Allow prints to level for 5-10 minutes at room temperature. Then dry for 10-15 minutes at 150°C, in a well ventilated oven or belt dryer.

Firing

Fire in well ventilated moving conveyor furnace, in air with a 30-60 minute cycle to a peak temperature of 850°C.

Typical Physical Properties

Test	Properties
Resistivity (mΩ/sq @ 15 µm)	<18
Fired Thickness (µm)	13-17
Solder Acceptance [2] on Al_2O_3	Excellent
Solder Leach Resistance [3] on Al_2O_3	6-8 cycles
Adhesion [4] Initial (N) after 5000 thermal cycles (N) after 3000 hours at 150°C (N)	 34 19 >18
Line Resolution Lines/spaces using 125µm/125µm	140-110
Compatibility	No significant shifts in Resistivity or TCR when used to terminate QS87 Resistors.

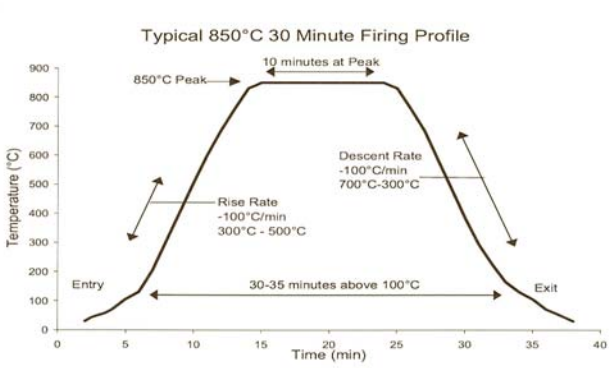
Composition Properties

Viscosity (Pa.S) (Brookfield HBT, UC&SP, #14, 10 rpm, 25°C)	120-180
Thinner	DuPont 4553

[2] Excellent characterized as greater than 95%, wetting smooth solder film after 5 seconds dip in 62Sn/36Pb/2Ag solder at 220°C using mildly-activated flux. Equivalent results for 30 or 60 minute firing profiles.
[3] Cycle consists of dip in mildly-activated flux (Alpha 611), 10-second dip in solder (62 Sn/36Pb/2Ag solder at 230°C) and washing off flux residue. Equivalent results for 30 or 60 firing profiles.
[4] 90° wire peel test on 2 mm x 2 mm pads soldered with 6262Sn/36Pb/2Ag solder at 220°C and mildly-activated flux. Equivalent results for 30 or 60 minute firing profiles. Average values are stated. Thermal Cycle Conditions: -40/+125°C with 30 minutes at each temperature and approximately 10 minute transition time between temperatures.

This table show anticipated typical physical properties for DuPont 6277 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Typical 30 minutes fire profile



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).

Caution: Do not use in medical applications involving implantation in the human body or contact with internal body fluids or tissue unless the product is provided by DuPont under a formal written contract consistent with the DuPont Policy Regarding Medical Applications of DuPont Materials H-50103-2 ("Medical Applications Policy") and which expressly acknowledges the contemplated use. For additional information, please request a copy of DuPont Medical Caution Statement H-50102-2 and the DuPont Medical Applications Policy.

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