

DuPont QM14

SILVER CONDUCTOR

Technical Data Sheet

Product Description

DuPont QM14 silver Conductor is part of the DuPont QM System, a silver-based system for low cost multilayers, DuPont QM14 silver Conductor is recommended as an inner conductor for dielectrics DuPont QM42 and DuPont QM44.

Product Benefits

- High conductivity
- High speed printing
- Fugitive blue dye.
- Excellent solderability and adhesion on DuPont QM42 dielectric and DuPont QM44.

Processing

Substrates

Properties are based on tests on 96% alumina substrates. Substrates of other compositions and from various manufacturers may result in variations in performance properties.

Printing

Screen-print with a 325-mesh stainless steel screen with a 12 μm emulsion thickness. Print speeds of 10 to 30 cm/s may be used.

Drying

Allow prints to level for 5-10 minutes at room temperature. Then dry for 10-15 minutes at 150°C.

Firing

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

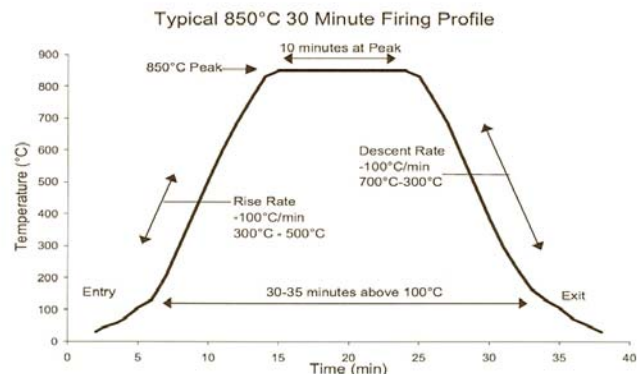
Typical Physical Properties

Test	Properties
Resistivity (m Ω /sq) [at 12 μm fired thickness]	1.5 - 2.5
Line Resolution	
On alumina (lines/spaces) [μm]	175
DuPont QM44 (lines/spaces) [μm]	200
Solder Acceptance ²	
62Sn/36Pb/2Ag - 220°C (on alumina) [%]	95
Solder Leach Resistance	
62Sn/36Pb/2Ag - 230°C	2 - 3
10 dips (on alumina) [cycles]	

(2) Percentage of defect free 2 mm x 2mm squares. Alpha 611 flux.

This table shows anticipated typical physical properties for DuPont QM14 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Figure 1 - 30 minutes profile



Composition Properties

Test	Properties
Viscosity (Pa.S) [Brookfield HAT, UC&S[SC4-14/6R], 10 rpm, 25°C ± 0.2°C]	90 - 125
Thinner	DuPont 4553
Coverage (cm ² /g) (Based on fired thickness of 10 µm)	85 - 95

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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