

# DuPont QM34

SILVER/PALLADIUM VIA FILL CONDUCTOR

## Technical Data Sheet

### Product Description

DuPont QM34 silver/palladium (20:1) via fill conductor is part of the DuPont QM System, a silver-based system for low cost multilayer. DuPont QM34 is recommended as a via fill for buried vias. In addition, DuPont QM34 may be used as a top layer via interconnection to silver, silver/platinum, silver/palladium external conductors.

### Product Benefits

- Thermal expansion coefficient adjusted for compatibility with DuPont QM44, DuPont QM42 & their variants.
- Crack-free via connections.
- Suitable to fill two dielectric layers with single via print.
- Co-fireable with top silver or silver/palladium conductors.
- Co-fireable with dielectric layer.
- Provides excellent surface planarity for staggered or stacked via arrangements.
- 15x refire capability:
  - Sequential or co-fired (Dielectric/DuPont QM14)
  - Sequential silver/palladium Top Conductor.

### 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 12.5µm emulsion thickness.

### Typical Fired Properties

Test	Properties
Resistivity (mΩ/sq @ 25 µm)	5 - 10
Planarity (µm)	< 5
Via Diameter (µm)	< 125 - 500
#Stacked Vias (layers)	< 10
Composition Properties	
Viscosity (Pa.s) (HBT UC&SP, 10rpm @ 25°C)	60-90
Thinner	DuPont 4553
Coverage (vias/g) [300µm diameter vias]	106,000

This table shows anticipated typical physical properties for DuPont QM34 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

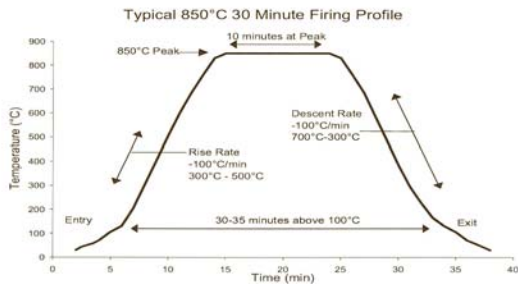
### Drying

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

### Firing

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

## Typical 30-minutes 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).

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