TECHNICAL DATA SHEET
ELECTRA$^{\Omega}$D'OR
ED7500 SERIES

PASTES for FIXED RESISTORS and
POTENTIOMETERS on RIGID CIRCUIT BOARDS

PRODUCT DESCRIPTION

ED7500 PASTES are manufactured using high quality carbon, silver and graphite powders to give a range of values from 1Ω□$^{-1}$ - 1M Ω□$^{-1}$ and are suitable for commercial and automotive fixed resistor and potentiometer applications. They are suitable for use on FR4, FR3, FR2, CEM1 and CEM3 material.

FEATURES & ADVANTAGES:

- **Large resistance range:-. ED7500** ranges from 1Ω□$^{-1}$ to 1MegΩ□$^{-1}$ in resistance. Higher values can be supplied by special arrangement. All can be processed under the same conditions allowing many values to be printed, dried and then cured together, placing less thermal stress on the substrate.
- **Tailor made values:-. ED7500** can be made to specific resistance values required by the customer.
- **Board cost savings:-. ED7500** can replace groups of discrete resistors with a single screen printing operation, thus cutting assembly costs and increasing PCB real estate.

RESISTIVITY

Product	Surface resistance
ED7500 - 1Ω	1Ω□$^{-1}$
ED7500 - 10Ω	10Ω□$^{-1}$
ED7500 - 100Ω	100Ω□-^{1}
ED7500 - 1kΩ	1kΩ□$^{-1}$
ED7500 - 10kΩ	10kΩ□$^{-1}$
ED7500 - 100kΩ	100kΩ□$^{-1}$
ED7500 - 1MΩ	1MΩ□$^{-1}$

PROCESSING

Viscosity adjustment:
Viscosity may be adjusted using **Electrareducer ER7**. No more than 1% reducer should be added or deterioration of printing and curing properties may occur. Where **Electrareducer ER7** is not available, Butyl Carbitol may be used as a replacement.

Printing:
The following factors all influence the quality of the print obtained:

- **Screen mesh: % opening, mesh type (S.T.HD) and material (stainless steel or polyester)**
- **Stencil type and thickness.**
- **Squeegee: hardness, sharpness, blade shape, angle and speed of print stroke.**
- **Snap off distance.**

The settings below are given for guidance:

Screen mesh:	200 mesh (stainless steel) 195 mesh (polyester) 39% minimum mesh opening
Squeegee:	70 to 80 Shore
Emulsion:	1 - 1.5mil (25 - 28μ)

Drying:

ED7500 pastes can be dried for 5 - 10 mins at 120ºC allowing the printing of several values, all of which can be final cured in one process.

Curing:

ED7500 may be cured in a convection oven or by using IR radiation.

Typical Cure Schedules are:	Convection oven:	30 mins at 150 - 200ºC
	IR tunnel oven	6 mins at 200ºC

Final resistance values and resistor stability will be affected by the temperature and time used for curing. In general, higher temperatures and longer times result in lower resistance values for any given resistor paste, and greater stability.

For further information on suitable IR settings, contact Electra Labs.

PERFORMANCE PROPERTIES

Resistivity. $1\Omega\square^{-1}$ to $1Meg\Omega\square^{-1}$

Termination. PTF silver or directly on copper

CLEANING: After printing the screen and stencil should be cleaned of residual paste using Universal Screenwash **SW100**.

SHELF-LIFE: 12 months at room temperature.

For further information, contact:

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