

Technical Data Sheet



THICK FILM MATERIALS

Product Type: Polymer Thick Film

Product Name: LTR4905



5 ohm Graphene Ink

Description

LTR4905 is a screen printable, graphene-enabled conductive ink for low temperature applications. This graphene-enabled ink, when properly cured, has good adhesion to most untreated and treated flexible plastic films such as polyester.

Key Benefits

- REACH¹ and RoHS² compliant
- Good adhesion to most flexible plastic films
- Fast curing
- Compatible with Heraeus low temperature Ag conductor

Typical Paste Properties

Resistivity:

≤ 5 ohms/square/mil when cured at 120 °C for 5 minutes

Adhesion:

Tape Test Method
Good 5B Adhesion

Viscosity:

100 – 130 Kcps Brookfield HBT
SC4 -14 spindle and 6R utility cup @ 10 rpm,
25 °C

Solids:

40 ± 1.0%

Mixing:

Material should be thoroughly mixed prior to use.

Non-Volatile

80.0 ± 2.0 %
3 hours at 135 °C

Recommended Processing Guidelines

Printing:

325 stainless steel mesh or nylon screen
0.5 mil emulsion thickness

Cleaning:

Clean uncured resin with Acetone or similar solvent.

Curing:

120 °C for 5 minutes
110 °C for 10 minutes
90 °C for 15 minutes

Cured Thickness:

6 – 8 microns

Recommended Substrates:

Untreated PET
Treated PET
Flexible plastic films

Warranty

Material guaranteed to meet specifications for 6 months from date of shipment

Handling & Precautions:

Use in a well-ventilated area.
Avoid contact with skin.
Wash with soap and water.

Storage

Store in a dry location at 5 – 25 °C

DO NOT REFRIGERATE.

Allow paste to come to room temperature prior to opening. Spatulate well before using, as settling may occur during storage.

SPECIAL NOTE:

Some of these materials may show resistance shifts due to thermal storage. Stability baking has been shown to minimize this behavior.

Technical Data Sheet



5 ohm Graphene Ink

Legend:

1) REACH compliant according to the latest ** Annex XIV to Regulation (EC) of the European Parliament and of the council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (“REACH”) by European Chemicals Agency and its subsequent amendments; the material does not contain any substance listed in Annex XIV.

2) RoHS compliant according to the latest ** Directives (European Union) of Restriction of Hazardous Substances (“RoHS”) and its subsequent amendments (including the exceptions related to Pb)

Heraeus Electronics
Heraeus Deutschland GmbH & Co. KG
Heraeusstraße 12 – 14
63450 Hanau, Germany
www.heraeus-electronics.com

Americas
Phone +1 610 825 6050
electronics.americas@heraeus.com

China
Phone +86 21 3357 5457
electronics.china@heraeus.com

Asia Pacific
Phone +65 6571 7677
electronics.apac@heraeus.com

Europe, Middle East and Africa
Phone +49 6181 35 3069, +49 6181 35 3627
electronics.emea@heraeus.com