

Product and Services Overview

# DYCOTEC

MATERIALS



# Product and Services Overview

## Introduction to the Company

Dycotec Materials is an advanced materials company that develops, manufactures and globally supplies electrically conductive, adhesive, insulator, overcoat and functional inks and thermal interface materials. In addition to our standard range of products, we also work with our customers to tailor materials specifically to meet their requirements.

At our purpose built printed electronics Technology Centre, our materials are subjected to rigorous testing standards to ensure approval in applications such as wearables, IoT sensors, IME (In-Mold Electronics), solar cell, automotive, aerospace and display. We provide materials from sample quantity to high volume, working collaboratively with our customers to ensure rapid adoption of our materials in their products.

We offer very rapid turn-around time on material supply, typically shipping within 5 days. We are flexible in how we work with our customers handling a variety of projects from proof of concept studies to identify suitable material systems supported by our experienced science and engineering teams to bulk volume material supply.

## Products

| Product Name | Type                     | Deposition Method | Description/Typical Applications   |
|--------------|--------------------------|-------------------|--|
| DM-SIP-2001  | Silver Conductive        | Screen            | 100% Stretchable for Wearable, In-Mold Electronics                                     |
| DM-ENC-2500  | Encapsulant              | Screen            | 100% Stretchable for Wearable  |
| DM-INS-2501  | Dielectric               | Screen            | 50% Stretchable for Wearable   |
| DM-SIP-3061S | Silver Conductive        | Screen            | Low temperature cured <100°C for paper based applications, display, smart packaging    |
| DM-SIP-3062S | Silver Conductive        | Screen            | For TCO-coated or glass substrates eg Capacitive Touch Screen, PV                      |
| DM-SIP-3063S | Silver Conductive        | Screen            | High durability, thermoset product for heaters and sensors                             |
| DM-SIP-3064S | Silver Conductive        | Rotary Screen     | For OPV use  |
| DM-SIP-3067S | Silver Conductive        | Screen            | Cost effective silver paste for membrane switches and plastic substrates               |
| DM-SIP-3070S | Silver/Carbon Conductive | Screen            | Silver/Carbon hybrid material  |
| DM-SIP-3100S | Nanosilver Conductive    | Syringe           | High viscosity nanosilver paste for TCO, TCO-glass applications such as display and PV |
| DM-SIP-3101S | Nanosilver Conductive    | Screen            | Nanosilver paste   |
| DM-SIP-3102S | Nanosilver Conductive    | Screen            | Ultra high resolution nanosilver paste for display                                     |
| DM-SIP-3105S | Nanosilver Conductive    | Syringe           | Low viscosity nanosilver paste for syringe printing                                    |
| DM-SIP-3108S | Nanosilver Conductive    | Screen            | Nanosilver paste for thin-film PV  |
| DM-SIJ-3200  | Nanosilver Conductive    | Ink-jet           | Ink-jet nanosilver for general printed electronics use                                 |

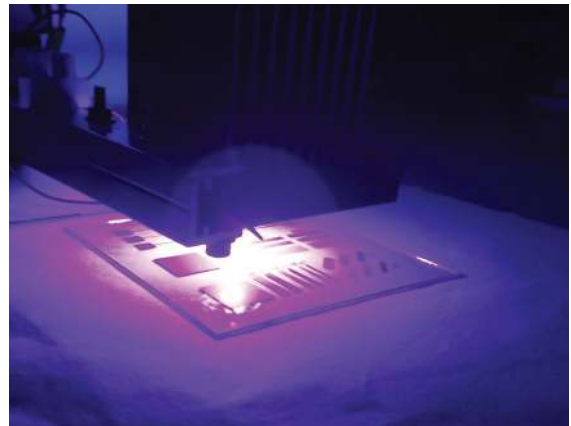
| Product Name       | Type                        | Deposition Method      | Description/Typical Applications  |
|--------------------|-----------------------------|------------------------|---|
| DM-CAP-400X Series | Carbon Conductive           | Screen                 | For hard wearing applications such as potentiometer and printed resistors. Pastes at various sheet resistances available. |
| DM-CAP-43XX Series | Carbon Conductive           | Screen                 | Thermoset carbon paste for plastic substrates. Pastes at various sheet resistances available.                             |
| DM-CAP-4511S       | Carbon Conductive           | Screen                 | Thermoplastic high electrically conductive pastes for plastic substrates  |
| DM-CAI-4601        | Carbon Conductive           | Ink-jet                | Nanocarbon inkjet for general printed electronics   |
| DM-CUI-5002        | Copper Conductive           | Ink-jet                | Nanocopper inkjet. Laser/flash-lamp use for rapid sintering.  |
| DM-CUP-5054        | Copper Conductive           | Screen                 | Nano/micron copper hybrid. Laser/flash-lamp use for rapid sintering.  |
| DM-CUP-5056        | Copper Conductive           | Screen                 | Nano/micron copper hybrid. Reducing gas sintered.   |
| DM-CUP-5080        | Copper Conductive           | Screen                 | Nanocopper paste. Reducing gas sintered.  |
| DM-CUP-5100        | Copper Conductive           | Screen                 | Nanocopper paste. Laser/flash-lamp use for rapid sintering.   |
| DM-OCI-6002        | Protective Overcoat         | Ink-jet                | UV Curable. High abrasion resistance overcoat layer for touchscreen, display, OLED  |
| DM-OC-6011         | Protective Overcoat         | Screen                 | Polyurethane based, high transparency overcoat  |
| DM-OC-6020S        | Protective Overcoat         | Screen                 | Thermally cured epoxy based overcoat  |
| DM-INI-7003        | Insulator                   | Ink-jet                | UV curable insulator for thin-film PV and multilayer sequential build-up  |
| DM-IN-7010S        | Insulator                   | Screen                 | UV curable insulator. For multilayer cross over for PCB, PV, OLED   |
| DM-IN-7020S        | Insulator                   | Screen                 | Thermally cured epoxy insulator for multilayer cross over for PCB, PV, OLED   |
| DM-SNW-8010        | Transparent Conductive      | Screen                 | Silver nanowire based transparent overcoat for display and solar cell   |
| DM-GRA-900X Series | Graphene Conductive         | Ink-jet                | For general printed electronics use   |
| DM-GRA-910X Series | Graphene Conductive         | Screen                 | For general printed electronics use   |
| DM-SAS-1000X       | Conductive Adhesive         | Screen/Syringe         | Silver-epoxy adhesive for general printed electronics use   |
| DM-SAS-10010       | Conductive Adhesive         | Screen/Syringe         | Stretchable adhesive for wearables  |
| DM-SAS-10020       | Copper Adhesive             | Screen/Stencil         | For semiconductor die/chip attach   |
| DM-AS-11001        | Adhesive                    | Screen                 | General electronics use   |
| DM-UVR-12001       | UV Reflective               | Blade Coat             | LED and industrial use  |
| TRIUMPHANT series  | Thermal Interface Materials | Sheet/Syringe /Stencil | Microprocessor, graphic cards, IGBT, MOSFET, Automotive including EV  |

## Tailored Material Service

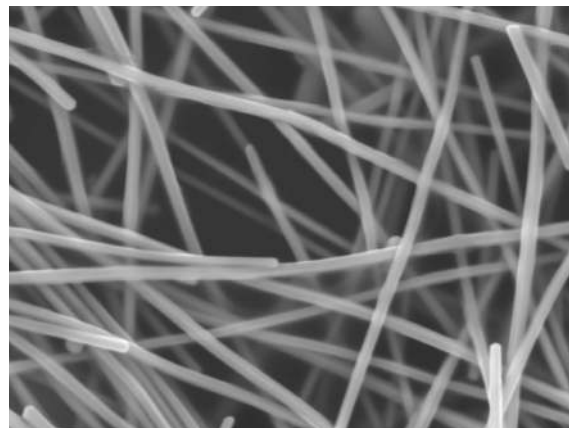
Dycotec Materials have unparalleled experience in the development of tailored material solutions including:

- Electronically conductive
- Transparent conductive
- Thermally conductive pastes and sheets
- Barrier and overcoat layers
- Insulating dielectric layers
- Adhesives
- Development of functional coatings eg piezoresistive, piezoelectric

We tailor our materials to meet the exacting specification requirements of our customers. Our materials are designed to be highly durable offering excellent chemical resistance and mechanical performance. We work in close collaboration with our customers to ensure materials developed can be readily adopted in production by ensuring the inks are compatible with existing customer process technology including deposition techniques such as ink-jet, spray, flat-bed and rotary screen and syringe printing.



UV curable overcoat layers



Transparent Conductive Materials

## Product Development Services

To support our customers' product development, using our advanced materials systems, we have a dedicated engineering team with a diverse range of skill sets including capabilities in software/firmware development, electronics design and 3D CAD design and simulation. Combined with industrial printing, assembly and curing systems and device characterisation equipment, enables Dycotec Materials to efficiently and rapidly take our customers' concepts from prototype to product launch.

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