

# Creating Material Change



## SynerG Conductive Ink & Paste I073016 Technical Data Sheet



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# SYNERG Conductive Ink & Paste

## Transparent Graphene Conductive Ink

Haydale's SYNERG I073016 is an inkjet ink, which is utilised to produce ink film with transparency and high electrical conductivity. It is particularly designed to apply for coatings with good adhesion properties on glass and PET surfaces.

Chemical family: Graphene PEDOT/PSS composite  
 Health and Safety: See the Material Safety Data Sheet (MSDS) and product labels before use.

### Physical properties

Test Item	Performance
Appearance	Dark blue liquid
Solid content	0.5 – 1.2%
Surface resistivity: The properties on glass coated by spin coating, curing condition: 130°C for 3 min	150 – 170 $\Omega$ /sq
% Transmission	90 – 94%
Surface tension	26 -29 mN/m
Pencil hardness	1H
Scratch resistance	5B (Excellent)
pH	2.0 – 3.0 at 25°C
Density	0.9 – 1.2 g/cm <sup>3</sup> at 25°C
Viscosity: Value measured by Brookfield DV-II+ Pro at spindle number of S61	10 – 13 mPa·s

### Physical properties

Typical Guidelines and Methods	
Printing equipment	Semi-automatic spin coating system.
Substrate types	Typical commercial polyester (Melinex 507 is recommend) and glass.
Curing conditions	Can be dried at 130-150°C for 3-5 minutes in box oven.
Before use	Stir vigorously at 60-80°C for 15-30 min to be homogeneous and filter the ink before use. The lid of ink container should be closed to prevent evaporation of any solvent.
Clean up solvent	Pre-clean the substrate surface with ethanol or iso-propanol to eliminate any contaminant and to protect non-homogeneous film after coating.
Storage	Store at 5-25 °C and avoid freezing. Close the lid of product container tightly after use to prevent solvent evaporation.
Shelf life	6 months.

**The content supplied in this technical data sheet ("Information") supersedes all previous versions supplied. Version 1, September 2019**

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