

# Conductive ink EH 13.344

Applied as a coating on the inside of casings and packagings, the conductive ink **EH 13.344** prevents and diverts static charges. It enhances electromagnetic compatibility and screens high frequency radiation.

- Basis: polyacrylic resin
- adheres well to many materials
- can be removed after curing from coated surfaces by means of **Methoxypropanol (PM)** or cleaning agent **R 5817**.

## Characteristics

Colour/appearance	black
Viscosity at 20 °C [68 °F] DIN 53211 / 4 mm flowcup	100 ± 10 s
Viscosity at 20 °C [68 °F] ISO 2431 / 6 mm flowcup	65 ± 5 s
Solids content DIN EN ISO 3251 / 1 h, 125 °C [257 °F], 1 g, 7.5 mm dish	39 ± 3 % by weight
Density at 20 °C [68 °F], DIN EN ISO 2811-1	1.12 ± 0.05 g/cm <sup>3</sup>

Index: EH = electro auxiliary products

## Physical, mechanical and electrical properties

Property	Test method	Result
Cross hatch	DIN EN ISO 2409 – on FR4 base material – on CEM1 base material – on plexi glass	Gt 0 Gt 1 Gt 0
Thermal class	based on DIN IEC 60085	B = 130 °C [266 °F]
Surface resistance	VDE 0303, part 30 DIN IEC 60093	< 10 <sup>10</sup> Ohm

## Processing



Please read this technical report and the publications listed below carefully before using the product. These sheets are enclosed with the first shipment of product or sample.

### MSDS

The corresponding material safety data sheet contains detailed information and characteristics on safety precautions, environmental protection, transport, storage, handling and waste disposal.

### TI

[Technical information TI 15/3](#) "Protective measures when using chemicals including lacquers, casting compounds, thinners, cleaning agents"

The conductive ink **EH 13.344** can be applied by means of brushing or spraying. Generally, an even, closed ink layer should be aimed for to achieve a good conductivity.

→ Ensure that the surface to be coated is clean, grease-free and dry. If plastic surfaces exhibit residues of mould-release agents remove them by means of a suitable cleaning agent



Stir before use

Since the many different permutations make it impossible to evaluate the whole spectrum (parameters, reactions with materials used, chemical processes and machines) of processes and subsequent processes in all their variations, the parameters we recommend are to be viewed as guidelines only that were determined in laboratory conditions. We advise you to determine the exact process limitations within your production environment, in particular as regards compatibility with your specific follow-up processes, in order to ensure a stable fabrication process and products of the highest possible quality.

The specified product data is based upon standard processing conditions/test conditions of the mentioned norms and must be verified if necessary while observing suitable test conditions on processed products.

Feel free to contact our application technology department (ATD) if you have any questions or for a consultation.

### Safety recommendations

- When using chemicals, the common precautions should be carefully noted.
- Ensure that extractor units of workplace ventilation arrangements are positioned at solvent source level.
- Please also pay attention to national guidelines or directives concerning operating safety such as the German TRBS (technical rules for operating safety) and those concerning the handling of flammable liquids or European directives.

### Viscosity adjustment

→ For an application by means of spraying adjust the viscosity as follows:

**DIL** dilute with **Methoxypropanol (PM)**



conductive ink **EH 13.344** : **Methoxypropanol (PM)** = 3 : 1 (parts by weight)

This will result in the following spraying viscosity at 20 °C [68 °F]:

Flow time acc. to DIN 53 211 4 mm DIN flow cup	approx. 20 s
Flow time acc. to ISO 2431 4 mm ISO flow cup	approx. 53 s

→ Add **Methoxypropanol (PM)** shortly before processing and use the diluted ink within one day.

### Auxiliary products recommended

- [ELPESPEC® Cleaning agent R 5817](#)  
for the cleaning of work place and tools/equipment

## Manual processing

The conductive ink **EH 13.344** can be applied in the condition supplied by means of a brush. The viscosity can be reduced for processing purposes by adding **Methoxypropanol (PM)**.

→ Add as little thinner as possible.

## Mechanical processing

→ Spray-coat the conductive ink EH 13.344 in a criss-cross pattern to achieve a closed ink film with a good conductivity.

→ Avoid so-called "dry spraying" (high pressure with small nozzle) since this negatively affects adhesion and conductivity.

Process parameters recommended:

Air pressure	Spray nozzle diameter
2.5 - 4 bar	0.8 - 1.5 mm

→ **When processing inks it is mandatory to observe the safety instructions of the corresponding national guidelines on explosion protection.**

→ **When processing coatings by means of spraying it is mandatory to take protection measures in order to avoid the formation of solvent vapour mixtures that might explode.**

→ **Use water-irrigated spraying cabins to avoid the risk of the filter mats self-igniting. Moreover, follow the operating and maintenance instructions of the spraying cabin / filter mat manufacturers.**

## Drying/curing

Drying takes place at room temperature by evaporation of the solvents. The drying time can be considerably reduced by applying heat. The following parameters for wet film thicknesses of 125–200 µm (dry film thickness of 25–35 µm) should serve as guidelines:

	at room temperature	in warm air drying units at 80 °C [176 °F]
Drying (tack-free)	approx. 20–30 min	approx. 10 min

## Packaging

The packing units available are indicated in our offer which we will send you upon request.

## Shelf life and storage conditions



Shelf life: In sealed original containers at least 9 months



Storage conditions: +5 °C to +25 °C [+41 °F to +77 °F]

For warehousing reasons, isolated cases may occur where the shelf life upon shipment is less than the shelf life indicated in this technical report. However, it is ensured that our products have **at least** two-thirds of their shelf life remaining when they leave our company. Labels on containers show shelf life and storage conditions.

## Disclaimer

All descriptions and images of our goods and products contained in our technical literature, catalogues, flyers, circular letters, advertisements, price lists, websites, data sheets and brochures, and in particular the information given in this literature are non-binding unless expressly stated otherwise in the Agreement. This shall also include the property rights of third parties if applicable.

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Any questions? We would be pleased to offer you advice and assistance in solving your problems. Samples and technical literature are available upon request.

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