

Product Information thermoscript

Image Durability | Health | Safety

April 8, 2015

Application

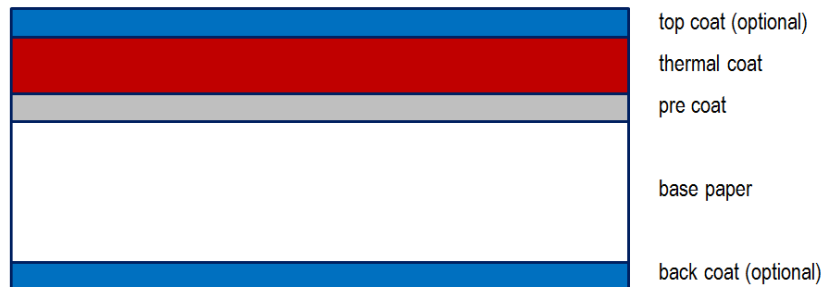
Thermoscript is a brand from Mitsubishi HiTec Paper Europe GmbH incorporating thermal sensitive speciality paper for use in thermal printers.

The image is achieved using a “direct thermal imaging” process.

Product design

Thermoscript grades consist of wood free base paper, made from ECF (elementary chlorine-free) pulp with a specially treated clay undercoat and a thermal sensitive coating. In addition, some special grades have a protective “top-coat” covering the thermal layer or a reverse side layer as a barrier when required.

The main chemical components in the thermal layer are wax-type materials, colour former, colour developer and additives which adjust the melting process according to the requirements of the various print heads. The components are fixed on the base paper by a binder. For better thermal printing characteristics as well as better performance of the coating process various other additives and pigments (like calcium carbonate or clay) are added into the coating mixture.



Product description

Thermoscript resembles a calandered, one-side coated printing paper. Thermoscript is odourless and it is possible to use conventional writing equipment.

Image durability

With every grade of thermoscript, Mitsubishi HiTec Paper Europe guarantees a certain durability for the thermal image. The lifespan of the thermal image is based upon a set of optimum storage conditions and a fully developed thermal image. Under these conditions a thermal image will last from 5 years up to 25 years depending on the grade.

In reality it is recognised that thermal papers are rarely stored in perfect conditions. The paper is often subjected to conditions that can be destructive to the thermal image and/or image contrast. Depending on the application it may be advisable to use a more stable thermal coating. Our experts are readily available to suggest a suitable paper grade for each application.

Storage conditions

As with office paper, thermoscript should be stored indoors, at temperatures between 18°C and 25°C and with a relative humidity of 40% to 60%. Storage of unimaged thermoscript under these conditions will assure satisfactory performance for at least 3 years from the date of manufacture.

Longer storage or storage at temperatures over 40°C or over 65% relative humidity can lead to a reduction in image contrast through lower brightness or lower performance of the thermal image lifetime.

Handling conditions

Direct sunlight, fluorescent and similar UV light sources should be avoided.

As the printed image can also be affected or destroyed when exposed to the following substances, depending on the duration, avoidance is strongly advised:

- > Carbonless papers
- > Wet-type diazo copy paper
- > Chart papers or adhesives containing tributyl-phosphate, dibutyl-phosphate or other organic solvents
- > Envelopes or folders composed of plastics containing plasticizers
- > Solvents or solvent-containing products, which include alcohol, ketones, esters, ethers or derivatives from this chemical group
- > Petroleum solvents (gasoline/petrol or diesel)
- > Greasy substances like lanolin (e.g. hand-lotion), lard, butter, mineral oil or vegetable oil

Health

Tests have shown that no health or safety risks are expected as a result of using thermoscript. We guarantee that our products do not contain any of following substances: lead (Pb), mercury (Hg), cadmium (Cd), chrome (Cr VI), polybrominated biphenyl (PBB) and polybrominated diphenylether (PBDE) according to ROHS directive 2011/65/EU.

Toxicological and dermatological test results:

- > Oral toxicity: Not poisonous or harmful, LD50 > 2000 mg/kg.
- > Skin Irritation: Tests have proved that there is no skin irritation from direct contact with thermoscript.
- > Sensitivity: Sensitivity or skin related allergies are unlikely through the use of thermoscript.

Furthermore we declare that all of our thermoscript products fulfil the toxicity requirements of the EC Directive 94/62/EC.

Thermoscript complies with REACH directive (EC) No 1907/2006. If a SVHC candidate substance is used in quantities >0.1%, according to article 33 of REACH each customer is informed separately.

Nonetheless thermoscript must not stay in direct contact to any food. However, there is no risk from using thermoscript for labelling food packages of on food that is peeled or washed before consumption.

Environment

Mitsubishi HiTec Paper Europe is FSC® certified. Our pulp suppliers only use wood from sustainably managed forests.

No environmental risks have been found from the use, storage and disposal of thermoscript.

The incineration behaviour of thermoscript is similar to normal uncoated papers. The usual fire extinguishing equipment may be used.

Recycling & Disposal

It is possible to recycle thermoscript by using a de-inking process. Secondary fibres with a relatively high brightness can be obtained.

It is not necessary to keep thermoscript separate from other paper waste. The usual methods of waste treatment can be used, i.e. incineration or disposal.

In case of any further questions please contact our Technical Service.

technical.service.mpe@mitsubishi-paper.com