



Koehler
THERMAL PAPERS



Product information



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Koehler Thermal Papers – leading worldwide!

The Koehler Paper Group has successfully developed into the world's leading manufacturer in one of the paper industry's most dynamic markets. The combination of paper technology and microchip power provides an imaging system with previously undreamed of levels of reliability, compactness, and cost effectiveness, particularly when delivering variable information printing at the point of use.

Thermal papers are already an indispensable part of everyday life: as POS receipts or price labels in supermarkets, public transport tickets or admission tickets, and in a multitude of other applications that require fast and economical printing of information.

In order to satisfy the ever increasing demand for thermal papers, we have continued to invest into our thermal paper works in Kehl where we now run the most efficient state-of-the-art production plants that can be found anywhere in the world today.

Robot-controlled twister packaging system in the Kehl mill





Koehler's activities are controlled by a management system certified according to DIN ISO 9001:2000 and DIN ISO 14001:2005. And since we are continuously striving for improvement, we have planned certification according to OHSAS 18001 (occupational safety) in 2009 and ISO 27001 (IT Security) in 2008. The Koehler Management System is a combined management system comprising the areas of quality, environmental issues, occupational safety, IT security, and risk management and guarantees uniform procedures throughout the entire company.



Certification planned for 2009



Certification planned for 2008

Our own patents and over 100 highly qualified colleagues in the Quality Assurance, Research & Development and Analysis divisions guarantee – today and in the future – that our Thermal Papers will maintain their position at the leading edge of technology and that we can always react quickly and flexibly to the demands of our customers and the market.

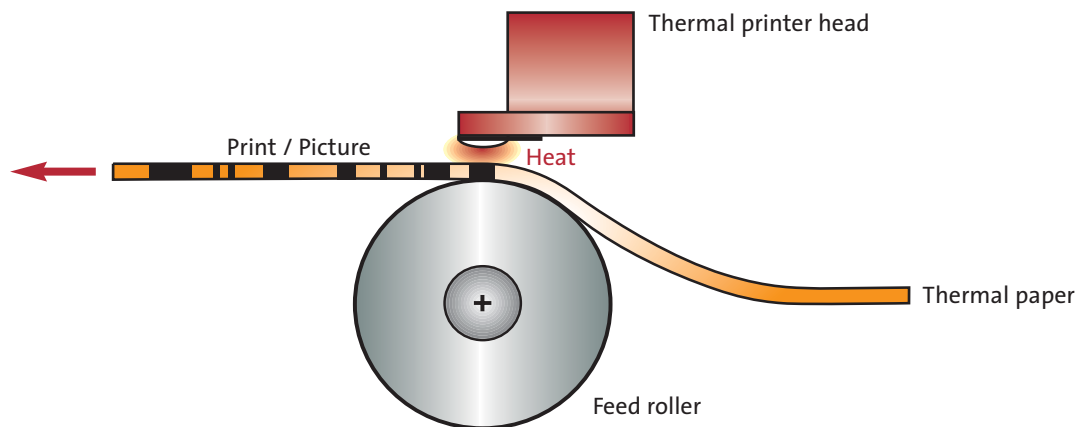




Thermal technology

Thermal printing

In the thermal printing process, the text or graphic elements are created by the direct application of heat to the thermal paper. This is performed by a thermal printing head that consists of numerous small heating elements. Each of these heating elements is controlled electronically and produces the thermal energy required to initiate the color reaction in the functional thermal coating of the paper to create the desired print, bar codes or graphic elements.



The benefits of thermal printers

The relatively simple construction and ease of use of thermal printers considerably reduces vulnerability to errors and malfunction. The printers are energy-saving, quiet, small and compact, and require no additional consumables, which in turn leads to reduced costs and extreme reliability. Thermal printers are able to retain their complete functionality, even under the most adverse conditions.

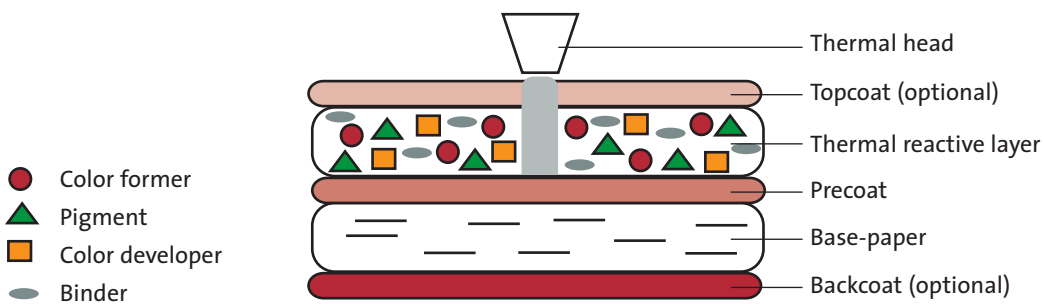
Structure and function of thermal papers

Koehler Thermal Papers are made of premium papers specially developed and manufactured for use with thermal technologies. An initial coating that is a prerequisite for high resolution, which prevents heat transfer through the paper and supports the trouble-free function and sensitivity characteristics of the subsequently applied thermal coating, is already applied in the paper machine.



The thermal coating contains the essential functional elements such as color formers and color developers. The application of heat to the thermal coating at distinct points initiates a chemical reaction that results in the development of the image or graphic elements composed of these individual points.

Additionally, thermal papers may contain a protective coating on the front or back side. A final surface coating on the image side (top coat) is useful if the paper may be subjected to mechanical stresses, exposure to chemicals or environmental effects. A coating on the back of the paper (back coat) provides additional protection during printing, laminating and numerous other processes.





Properties

Dynamic and static sensitivity

To ensure optimum printing results, it is essential that the paper is ideally matched to the printer employed and the application for which it is required. Sensitivity is the decisive factor in the selection of the correct paper.

The dynamic sensitivity is particularly important in the choice of paper for certain printers. The faster a printer works, the shorter the time the paper is exposed to the elements of the thermal printing head. Therefore, a fast device requires paper with a higher dynamic sensitivity. If low sensitivity thermal papers are used, the heat applied is insufficient to create a printed result with the necessary density, which in turn reduces the long-term stability of the print.

The static sensitivity defines the temperature at which the color reaction in a thermal paper begins. The static sensitivity value is important when the papers used are employed in high-temperature environments such as for car park tickets.





Aging stability

Depending on the product selected and assuming correct storage, we can guarantee a printing durability ranging from 5 to 12 years. However, various environmental influences may have a decidedly negative effect on the stability of the printed results. Please ensure that the printed slips are not kept in plastic sleeves containing plasticisers or glued to any kind of backing material; please also avoid contact with hand lotions or creams, oils, plasticisers or fluids. Detailed information on the durability of printed results is listed in our „Certificate of Image Stability“ that you can find on our homepage (www.koehlerpaper.com).

Printability

Koehler Thermal Papers may be printed on the functional as well as on the reverse side. However, it is important to consider which printing method is used. In general, when printing the thermal layer, care must be taken that the machine settings are adapted to the paper.

The entire Koehler Thermal Paper range can be printed without problems using water-flexo or UV-flexo printing. Nonetheless, the inks selected must always be compatible with the thermal layer, regardless of whether the thermal side or the reverse is being printed. For additional advice, please refer to our printing recommendations on our homepage.

Certification by printer manufacturers

Koehler collaborates with a number of manufacturers of thermal printing heads, printers and printing systems in order to optimally match the grades of thermal paper to the equipment. Before approval, extensive tests are performed in order to guarantee a long service life for the thermal printer and its individual components while achieving a consistently good printed result. Approval has been granted by IBM, Epson, Seiko, MWCR, Hengstler or Mettler-Toledo, to name but a few. In addition, Koehler subjects their products to extensive tests at regular intervals in order to ensure that a perfect printed result and long service life of the individual components can also be guaranteed for devices that have not yet been submitted for approval.

Applications

POS applications and specialities

Regardless of whether you're visiting your local supermarket, the corner shop or a cafe while on holiday – you will find our advanced thermal papers almost everywhere. No wonder – the POS qualities of Koehler Thermal Papers were indeed conceived for a wide range of applications.

Grammages and thicknesses are constantly revised to meet current market demands and to guarantee our end customers an optimum ratio of roll diameter to paper length. The most recent example of this is the addition of KT 48 F20 to our standard range, so that the Koehler classics KT 55 F20 and KT 58 F20 now also have a more lightweight companion. In addition to the cash register rolls in POS environments, the preferred applications for the F20 series are as ATM receipts or as special graph papers for recording instruments in the medical sector. The sensitivity permits the generation of optimum printing results with almost all currently available thermal printers.





Also new in the Koehler Thermal Paper range is our KT 54 2ST. This is double-coated thermal paper, i.e. it has a thermal coating applied to both the front and the back of the paper. KT 54 2ST is only suitable for use in specially designated thermal printers and permits the simultaneous printing of the front and back of cash register rolls.

The HS quality is another addition to our POS range. KT 55 HS, which creates a superior contrast print, is particularly suitable for the printing of sophisticated design options and is therefore highly recommended for the printing of store receipts which should promote your corporate image. KT 70 HS and KT 80 HS are preferably employed in applications requiring heavier grammages or thicknesses, e.g. for info terminals (kiosk applications) or as graph papers in the medical sector.

KT 55 P was specially devised for customer weighing scales, but is also suitable for use in check-out tills when colored papers are required. This quality is not just available in white, but also in yellow, pink, green or blue. KT 55 P is suitable for offset printing.





Applications

Labels

Just press the button on the weighing scales at the fruit and vegetable counter of your local supermarket and you already have a self-adhesive label – it's probably no surprise that this is thermal paper, too. In addition to this almost universal application, thermal labelling is also used extensively in the logistics, transport and delivery sectors, as well as in the industrial field in general, since today life without thermal printing is hardly imaginable. As labels primarily serve the purpose of communicating certain information, all the data printed on a label, and in particular the bar code, must be clearly legible – a clear argument for using our KT 80 EC!

Tickets

You'll encounter this rigid thermal paper when you take a look at your cinema tickets, your betting slip or in numerous other situations where outstanding stability, printability, and permanence are required. These papers are often delivered with security features such as, for instance, UV reflecting fibres to protect tickets against forgery. Along with KT 80 EC, our universal paper, KT 100 P is the perfect medium for this purpose! If you are interested in particular kinds of security features, then please contact our sales division. Wherever possible, we can also offer customised solutions to meet your precise needs in addition to our standard range.





Sales

Global presence

We supply papers to converters in more than 80 countries around the world. Accordingly, the members of the Koehler Thermal Sales Team cultivate strong and lasting personal connections to our customers throughout the world.

We also maintain a local presence through qualified agencies and our own sales offices located around the globe.

Our business associates are welcome to gather their own impressions of our performance and the efficiency of our manufacturing processes by visiting our facilities in Kehl. Here they can find out more about our investments in the further improvement of our product range and our cost-reduction procedures.

The Koehler Technical Customer Service is always ready to help our business associates with targeted advice and immediate action in matters concerning the processing of Koehler Thermal Papers.



Environment and safety

Environmental protection

The environmentally sound manufacture of our products is a key factor in our corporate mission statement, and environmental protection is considered to be equally as important as our other corporate objectives. Moreover, the environmental activities of the Koehler Group have received numerous awards at a national and regional level. Examples of our commitment are membership in working committees, river stewardship or cooperative activities with environmental associations. Our manufacturing procedures are subject to an ongoing process of improvement to fulfil the requirements of ever-increasing demands for environmentally safe manufacturing processes.

All environmentally relevant procedures are an integral component of our management system and, as such, are certificated in accordance with DIN ISO 14001:2005.

Pulp

Koehler exclusively utilises pulp from suppliers who are categorised according to various regional standards such as e.g. FSC, PEFC, CERFLOR or CERTFOR, which implies that the cellulose supplied originates from sustainable forestry.

In addition to this, our facilities in Oberkirch and Kehl have been FSC Chain-of-Custody certified since March 2008.

Water

We maintain a leading position in Europe with over 96% of our process water being retained in a closed water cycle. With the extremely favourable value of only four cubic metres of waste water per tonne of paper, our manufacturing facilities in Kehl occupy an almost unassailable European and global position in this industry segment.

Raw materials

Our choice of raw materials is based on environmental safety criteria, i.e. biological degradability and recyclability, as well as health safety issues. As a member of the ETPA (European Thermal Paper Association), Koehler is committed by a self-imposed obligation to manufacturing processes that fully exclude the utilisation of any raw materials that are environmentally harmful or represent a health hazard.

Dyes

All dyes employed are safely recyclable.

Recycling of rejects

Our production rejects are immediately returned to the production process cycle.



W a s t e s

100% of all waste products are recycled by environmentally safe methods and none are deposited into landfill.

E n e r g y

In Kehl, a biomass thermal power plant is installed that works on the principle of a combined heat and power cycle with circulating fluid bed combustion. Our emissions are considerably below mandatory emission thresholds in all areas.

P a c k a g i n g

The packaging of Koehler Thermal Papers is 100% recyclable.

H e a l t h a n d S a f e t y

Koehler Thermal Papers do not consist of any toxic, skin irritant or allergenic properties. This is confirmed by comprehensive analyses performed by well-known independent institutions in accordance with internationally recognised testing procedures (OECD Guidelines 402–406).

Koehler Thermal Papers are ISEGA approved for utilisation in immediate contact with foodstuffs. When used according to instructions, the papers are physiologically and toxicologically safe.





Koehler
PAPER GROUP

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