



**Digital Magnetics**  
**Support document**

# Digital Magnetics

Change your graphics quickly.

## About Digital Magnetics

Digital Magnetics® offers a comprehensive, innovative range of large format flexible, printable ferrous and magnetic media.

Designed for indoor & outdoor applications such as POS & POP displays, trade show graphics, wall decoration, car graphics and more.

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# Support DM Ferro & Magnetic Base films

The first step in using Digital Magnetism media is creating a surface that is magnetic or ferrous. Our self-adhesive base films can be applied to flat, curved or cylindrical surfaces. Use printed magnetic or ferro graphics and adhere to your surface. The solution that meets the demand for changeable graphics.

## How do I know what type of base film I need for my project?

A thicker base film with a stronger holding force is recommended for larger graphics and working with multiple layers of graphics. The material is available with a brown or white surface. Use this white surface base film for areas where the wall is not always covered with graphics or print it with UV-curable inks.

## Create a magnetic surface with DM Magnetic Base films

Product description	Holding force	Layers
DM Magnetic Base Film 400μ	18 g/cm2	one layer
DM Magnetic Base Film 500μ	25 g/cm2	double layer
DM Magnetic Base Film White 500μ	25 g/cm2	double layer
DM Magnetic Base Film 700μ	36 g/cm2	multiple layers
DM Magnetic Base Film White 700μ	36 g/cm2	multiple layers

Read the general support tips on how to prepare your wall before mounting

DM Ferro & Magnetic Base films can be used indoor & outdoor.

DM Magnetic Base Film 700μ in combination with DM Ferro PET Film 180μ meet the German b1 standard for fire retardancy, making it the perfect choice for changeable graphics. It is durable, safe, and can be used in multiple layers.

DM Magnetic Base Film 700μ needs a solid mounting surface due to its heavy weight and is recommended for larger areas when using multiple layers.

DM Base films with a white surface are printable with UV-curable inks.

## Create a ferrous surface with DM Ferro Base films

Product description	Holding strength
DM Ferro Base Film 500μ	100 g/cm2
DM Ferro Base Film White 500μ	100 g/cm2

Use in combination with DM Magnetic films



# Support DM Ferro films

Digital Magnetics printable, flexible Ferrous media is the perfect and economical solution for changing graphics quickly. Designed for applications such as retail decoration, display graphics, wall decoration, trade shows, etc.

The ferrous anti-rust back coating adheres easily to magnetic surfaces.

Multiple overlays of graphics are possible, depending on the magnetic force of the base film used in the application.

DM Ferro films can be stored and re-used time after time. This reduces the life-cycle costs for signage, making it a durable, cost saving solution for graphics.

## Apply DM Ferrous media to your magnetic surface

Product description	Compatibility
DM Ferro PP Film 240μ	WB - LX - UV
DM Ferro PET Film 180μ	ES - LX - UV
DM Ferro Canvas Universal 470g	WB - ES - LX - UV

Print Compatibility: WB / Waterbased, ES / (Eco)Solvent, LX / Latex, UV / UV-cure

Read the general support tips for more information on printing the ferro films

DM Ferro PET Film 180μ has a satin surface and is recommended when using larger panels.

DM Ferro PP Film 240μ is extra flexible with a matte imaging surface and is limited to smaller meter panels.

DM Ferro Canvas Universal 470g in combination with DM Magnetic Base Film 700μ is recommended, because of the heavy-weight of the ferro film.

## Whiteboard - Dry-Erase

Product description
DM Ferro Glossy Whiteboard Film 500μ PSA

DM Ferro Glossy Whiteboard Film 500μ PSA is a flexible and light weight ferrous material with a patented dry-erase surface treatment and a permanent self-adhesive reverse side. It can be used again and again, simply write on it with a dry-erase marker and wipe it off. Magnetic accessories, prints and markers can also be attached to it, making it a truly universal product for use at home, school, restaurants, retail stores and offices.



# Support DM Magnetic films

Digital Magnetics printable, flexible Magnetic media is easy-to-use and can be easily and quickly installed by untrained personnel meeting the demand for changeable graphics. Designed for applications such as retail decoration, display graphics, wall decoration, trade shows, car graphics, etc.

DM Magnetic media adheres easily to any iron or steel-based surface.

Thicker films have a higher magnetic force. DM Magnetic PVC Film 850μ can be used for vehicle signage. Simply apply to a flat surface on the vehicle.

DM Magnetic films can be stored and re-used time after time. This reduces the life-cycle costs for signage, making it a durable, cost saving solution for graphics.

## Apply DM Magnetic media to your ferrous surface

Product description	Magnetic force	Compatibility
DM Magnetic PET Film 300μ	8 g/m2	ES - LX - UV
DM Magnetic PVC Film 350μ	6 g/m2	ES - UV
DM Magnetic PVC Film 500μ	18 g/m2	ES - LX* - UV
DM Magnetic PVC Film 600μ	24 g/m2	ES - UV
DM Magnetic PVC Film 850μ	38 g/m2	UV

Print Compatibility: ES / (Eco)Solvent, LX / Latex, UV / UV-cure

\* Special version of DM Magnetic PVC 500μ available for the use of Latex inks

DM Magnetic PET Film 300μ has the best image quality. This material is PVC-free and has a good dimensional stability and strength.

DM Magnetic PVC Films are PVC-coated and available in different thicknesses.

DM Magnetic PVC 850μ can be used for vehicle graphics because of its excellent magnetic strength. Also recommended for large stationary graphics.

## Whiteboard - Dry-Erase

Product description

DM Magnetic Glossy Whiteboard Film 500μ

DM Magnetic Glossy Whiteboard Film 500μ is a flexible and light weight magnetic film with a patented dry-erase surface treatment. It can be used again and again, simply write on it with a dry-erase marker and wipe it off. The magnetic surface holds small iron and ferrous coated objects. Examples are menu's, planning and announcement boards, etc.



# Support DM Magnetic Tape

Digital Magnetics Magnetic Tape is an easy to use solution to mount any non-magnetic object to an iron surface. Simply remove the self-adhesive layer and attach the tape to the object.

DM Magnetic Tape can be easily folded and twisted without damaging the magnetic property of the magnet. It also has excellent machinability characteristics, making it easy to be drilled, punched, scissor cut, knife cut, and die cut. DM Tapes have a permanent acrylic adhesive.

Tapes are the ideal solution for use in graphic display systems, doors, warehouse labels, window systems, and other solutions.

## Apply DM Magnetic Tape to non-magnetic objects

Product description	Pull strength	Peel Force
DM Magnetic Tape PSA Neutral	55 g/cm2	5,2 N/cm
DM Magnetic Tape SA Tesa 4967	55 g/cm2	10,8 N/cm
DM Magnetic Tape SA Tesa 4965	55 g/cm2	14 N/cm

Peel force is defined as the force needed to “peel” an adhesive tape from any given surface, whether flexible, smooth, or rigid. Peel force is a very important consideration for both kinds of adhesive applications, temporary and permanent. For permanent mounting applications, maximizing resistance to peel force should be the target.

# Support DM Plain Brown Magnet

DM Plain Brown Flexible Magnet is used to produce magnetic images that can be attached to iron and steel-based surfaces, it is available in a variety of thicknesses. The self-adhesive printed image with or without a protective laminate is mounted on top of this permanent magnetic sheet to produce the magnetic image. Plain Brown Flexible Magnet film can easily be folded and twisted without losing its magnetic properties. Plain Brown Flexible Magnet is easy to cut with standard manual or automated tools to any shape.

## To be laminated with your own printable media

Product description	Magnetic force
DM Plain Brown Flexible Magnet 400µ	18 g/cm2
DM Plain Brown Flexible Magnet 500µ	24 g/cm2
DM Plain Brown Flexible Magnet 750µ	38 g/cm2

# General Support tips

## Recommendations

### Factors influencing adhesive force

The adhesive force specifications in the datasheets require ideal conditions. Material, surface texture and temperature may have a significant influence on the adhesive force of a magnetic tape or sheet.

The maximum magnetic force can only be achieved on smooth surfaces and with full contact. The tape or sheet needs to be placed flat and directly on the counterpart and without bubbles. If there is no direct contact to an iron counterpart - a piece of paper, dirt or a thick coating in between - it is enough to let the magnetic force diminish rapidly. Keep the material away from strong (electro) magnetic fields.

It is recommended to mount the base film and printed panels vertically this will guarantee the best possible magnetic holding force.

### Working temperatures

Temperatures under  $-20^{\circ}\text{C}$  and above  $+80^{\circ}\text{C}$  change the structure of magnetic tapes and sheets and may cause the products to permanently lose some of their adhesive force. Therefore, do not use them in places with extremely high or low temperatures and set your print parameters accordingly, especially when using Latex print technology.

### Outdoor use

Even with correct application, air humidity and UV radiation can affect the adhesive of self-adhesive products over time. Self-adhesive magnetic tapes and sheets have only limited use in outdoor and wet surroundings such as bathroom, sauna, etc. because the adhesive may deteriorate over time. If you still want to use it under these circumstances we recommend to replace the product from time to time. DM Magnetic PVC Film  $850\mu$  is recommended for outdoor and vehicle use.

Avoid using magnetic graphics at extreme low temperatures below  $-20^{\circ}\text{C}$ . Cold weather will make the magnetic film brittle, use caution when handling the film at low temperatures.

### Indoor use & fire retardancy

DM Films can be used indoors, the combination of the DM Magnetic Base Film  $700\mu$  and DM Ferro PET Film  $180\mu$  comply with the German DIN 4102 (B1) standard for flame retardancy. Important when using materials in crowded public areas such as retail environments and trade shows.

## Wall preparation for DM Base films

First check if the material is received in good order and has not been damaged in transport.

- The mounting surface must be stable, if it is not reinforce it.
- Make sure the mounting surface is smooth, solid and dry and free of mold or algae.
- Not all painted surfaces will give a good adhesion, check adhesion on a small area.
- Measure the area to be covered and calculate the number and length of strips required.

The material is available with a brown or white surface. Use a white surface base film for areas where the wall is not always covered with graphics.

### Mounting

- Vertical mounting is the best method, horizontal mounting will result in a lower holding force.
- Draw a vertical line on the mounting surface to align the first panel vertically.
- Remove the release liner from the Base film.
- Apply the Base film to the mounting surface with a squeegee, starting at the top, from the centre to the sides.
- Mount the second panel, panels should not overlap. Leave a 1-2 mm gap between the panels to allow thermal expansion.
- The minimum radius possible around edges is 12 mm.
- Do not stretch the material during mounting.
- Due to the weight of the material it is recommended to fix the self-adhesive material at the top with some staples for extra security.
- When making prints for large areas it is recommended to limit the size of the panels vertically to 3 meter (DM Ferro PET Film  $180\mu$  in combination with DM Magnetic Base Film  $700\mu$ ). Tiling the image is the best solution in case large graphics are required. The use of the thinner magnetic base is not recommended in large scale applications.
- DM Ferro PP Film  $240\mu$  is only recommended for smaller areas due to the flexibility of the material.
- The material can be cut with sharp scissors or a knife.

### General recommendations

DM Ferrous and Magnetic films do not rust, however strong UV radiation and or high temperature and humidity do affect the properties of the material. It is recommended to check the material at regular intervals especially in outdoor and high humidity / temperature environments and replace it if necessary.

### Note to user of media

Due to the large number of variables that are beyond the control in using the product we strongly recommend to test the product in the actual application before using in a large project. Digital Magnetics or the distributor of the media cannot be held responsible for failure of the project.



# General Support tips

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## Printing DM Ferro & Magnetic films

DM Flexible, printable films are available for most inkjet print technologies. Due to the special characteristics and finishing methods of the media, minor modifications on the printer hardware may be necessary in order to achieve correct printer operation and the best print results.

1. The rear side of most ferro and magnetic print media have a dark colour. This may cause the printer not or intermittently to detect the media presence. In this case a white sticker over the media detector will solve the issue.

**WARNING:** Do not leave the printer unattended since it will not detect the end of media and continue printing, contaminating and possibly damaging the printer hardware.

2. Many printers will have steel/iron parts on the feed/intake side and the output/dryer. Magnetic media will be attracted by these surfaces which may cause deformation of the media causing head strikes or even block the transport of the media. This can be prevented by causing a gap between the magnetic side of the media and the steel parts of the printer by mounting a sheet of a material such as a paper release liner or a 200 gram paper on these surfaces. This may also disable the media detector.
3. Especially in HP Latex printers the high temperatures may cause deformation of the media and change the characteristics of the magnetic media. It is recommended to keep the curing temperature under 85 ° C (!)
4. Always check the printer manual for the maximum media thickness allowed to avoid serious damage to the printer.

## Shipping

Prints have to be completely dry before shipping, especially when (Eco)Solvent inks are used the print has to dry for at least 12 hours. It is recommended to ship the printed graphics in a cardboard or plastic tube protected by a paper or plastic sleeve.

## Lamination

The printed graphics can be laminated, before laminating the print has to dry completely laid out flat. Rolled up prints will not dry. Liquid lamination is recommended, cold/self-adhesive lamination is also possible, however this type of laminate may cause stress in the material resulting in curl and failures. Hot/warm lamination is not recommended as this may cause stress in the material and/or damage its magnetic properties.



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