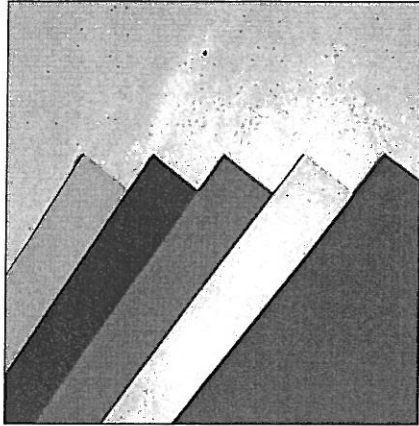


# ECLIPSE

## SHEET & STRIP

### General Specification



#### Adhesive Backing

As the adhesive used is a general purpose adhesive it is recommended that the customer conducts trials to establish the suitability of the product prior to its actual use. Maximum bond is achieved after 36 hours contact

#### Colour

Plain Magnetic material assumes the colour of the Barium ferrite powder, i.e. dark brown. Any colour can be achieved by laminating with the appropriate coloured material.

#### Electrical Conductivity

Can be classified as an insulator suitable for high voltage/frequency applications.

#### Specific Gravity

In the range of 3.5 to 3.7.

#### Storage

Great care must be taken with storage. Rolls of material should not be stored on end or on one edge, otherwise distortion will occur. For preference rolls should be suspended on the centre core. Vinyl faced material should be sheeted and stored flat colour face to colour face.

#### Surface Finishes

Plain products have a smooth clean surface which is suitable for accepting flexible paints, adhesives or self adhesive vinyls.

**Adhesive Backed items** are laminated on the non-magnetic face with a good quality acrylic type double sided adhesive complete with siliconised release paper.

**Colour Faced Sheet** is laminated with a high quality self adhesive PVC film on the non-magnetic face.

#### Temperature Effects

Total flux reduction of 0.2% per °C rise. Recoverable on cooling. Flexibility will increase with increased temperature.

#### Vinyl Faced Sheet

If the products are to be silk screen printed the use of vinyl based inks is recommended. Acrylic inks are generally not recommended.

# ECLIPSE

## MAGNETIC SHEET AND RELATED PRODUCTS

#### Description

Flexible Bonded Magnetic Sheet consists of a fine magnetic powder (Barium ferrite) loaded into a flexible thermoplastic binder.

The compound is then calendered into sheet and magnetised. Self adhesive or coloured vinyls are added to the non-magnetic face as required.

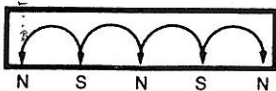
#### Flexibility

Bonded Magnetic Sheet is exceptionally flexible and will remain so over a wide range of normal atmospheric temperatures. As with most synthetic materials it is somewhat temperature dependent.

#### Forms of Magnetisation

##### Isotopic

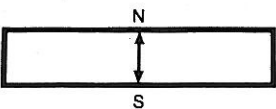
Magnetised multipole on one surface with pole pitching of approx. 3mm. As the poles are closely spaced very small pieces can be cut with no loss of performance.



The Poles will be either parallel or at right angles to the roll length.

#### Anisotropic

Magnetised through the thickness. Suitable for magnetic sandwiches.



#### Machinability

As the material has excellent flexibility and impact resistance it can be easily cut with scissors or knives. Complex shapes can be punched using inexpensive dies.

#### Magnetic Performance

The figures quoted below are the vertical pull achieved when the sheet is placed in contact with finely ground mild steel.

Typical figures are:-

0.5mm thick	23 grams/cm <sup>2</sup>
0.75mm thick	39 grams/cm <sup>2</sup>

#### Magnetic Stability

By using high coercivity powders the material is immune to magnetic damage in normal use.

#### Maximum Temperature

Maximum operating temperature is 80°C for plain sheet and 70°C for colour surface sheet.

#### Physical Stability

The material has good ageing resistance and can be used both indoors and outdoors. However the coloured vinyl surface is subject to some fading with prolonged outdoor use.

#### Special Finishes

As well as the standard surface finishes we can offer material faced to customers particular requirements. Special finishes include adhesives, vinyls, paper, card, etc., but is of course subject to economical quantities being required.

#### Special Magnetisation

Certain applications require non-standard magnetisation, e.g., television magnets and printing cylinders. Magnetisation facilities exist to magnetise sheet through its thickness, multipole on both faces, etc.

#### Special Shapes

Normally supplied in roll or sheet form but quantities permitting special cut shapes such

as circles, rectangles, triangles, etc., can be produced provided customers contribute to the cost of form cutters.

#### Special Sizes

Material is available to special order in alternative widths, thicknesses and lengths.

#### \*Width

Both the laminated adhesive and vinyls will be a minimum of 610mm wide. An unsurfaced salvage edge of magnetic sheet may be apparent.

#### Recommendation to makers of Vehicle Signs

Vinyl Faced Magnetic Sheet is already widely used for vehicle signs.

The advantages of magnetic signs are obvious but the following instructions should be given to users:

- Signs should not be left for long periods in one position on the vehicle.
- Signs should be removed before cleaning vehicle.
- Magnetic face of sign must be kept clean and dry. Avoid trapping moisture between sign and car.
- Avoid positioning signs over severe contours. The flatter the surface the better the hold.
- Ensure air bubbles are smoothed out and edges of sign are in full contact with vehicle.
- When not in use signs should be stored flat.
- Avoid using on body panels which have been repaired with body filler.

### Description

Flexible Bonded Magnetic Strip consists of a fine magnetic powder (Barium ferrite) loaded into a flexible thermoplastic binder. The compound is then extruded to give the required form and finally magnetised with the appropriate pole arrangement.

### Flexibility

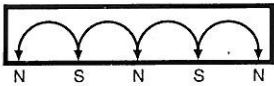
The degree of flexibility is dependent on the cross section of the profile. All strips can be coiled around a 100mm dia. former without damage.

### Forms of Magnetisation

Magnetic strip is mostly supplied magnetised as in Fig. 2.

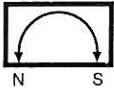
Thin profiles are magnetised as in Fig. 1 to obtain maximum gripping performance on working face. Alternative forms 3, 4 and 5 can be supplied for special applications.

Fig. 1



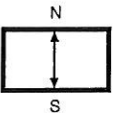
Suitable for thin profiles

Fig. 2



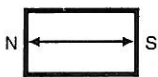
Normal for gripping applications

Fig. 3



Suitable for magnetic sandwiches

Fig. 4



For equal adhesion on both wide faces

Fig. 5



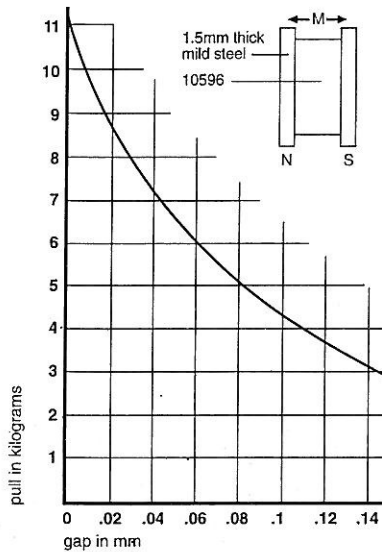
Magnetised along the length of the profile  
Max. 40mm

### Machinability

Strip can be easily cut, drilled, punched and shaped without the need for expensive equipment.

### Magnetic Performance

Relatively low magnetic pull when compared to metallic magnets. When sandwiched with mild steel to provide flux concentration very high contact grips can be achieved.



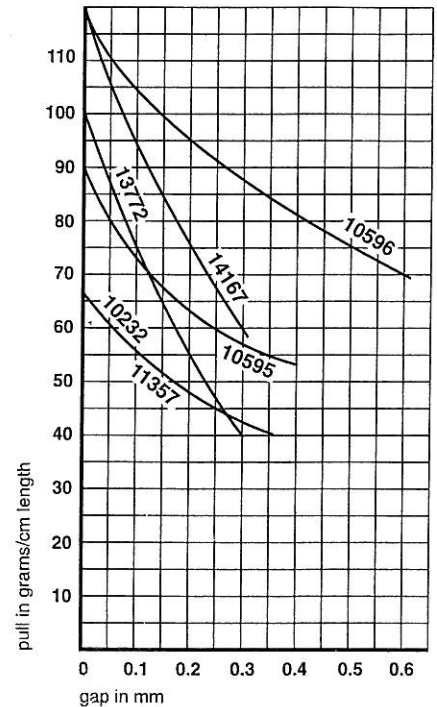
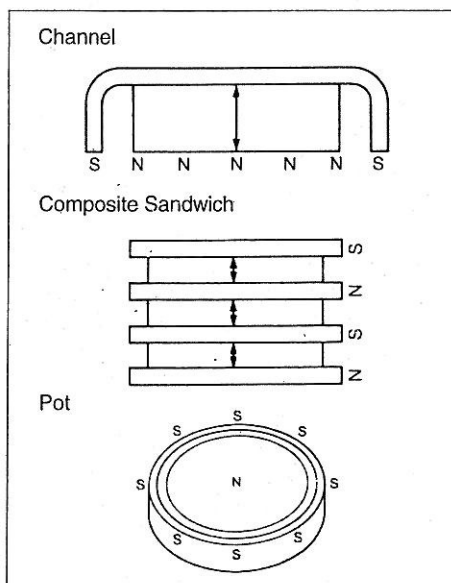
Magnetic pull achieved with 75mm piece of 10596 magnetised as Fig. 3 and combined with mild-steel to form a sandwich.

### Maximum Temperature

Maximum recommended operating temperature 120°C.

### Methods of combining with pole plates

To provide flux concentration, and hence increase the magnetic pull, strip can be combined with mild steel in several configurations, e.g.:



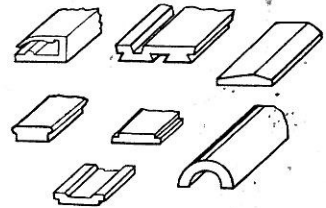
Magnetic pull achieved with standard magnetisation of strip lifting a ground mild steel block.

### Physical Stability

Excellent toughness. Corrosion and weather resistant.

### Special Sizes and Profiles

Dies are continually being added to our range and further ones will always be considered providing customers agree to contribute to the tooling cost.



### Special Cut Lengths

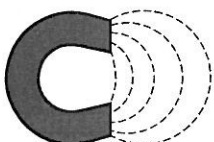
Normally supplied in complete coils only, but providing quantities are sufficiently large cut pieces of 10mm and above can be supplied.

### Special Finishes

Certain profiles can be supplied with double sided pressure sensitive adhesives on non-magnetic face.

### Special Magnetisation

In certain cases alternative forms of magnetisation can be provided on standard profiles.



# ECLIPSE MAGNETICS

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