

Application No. 6: Low-voltage Lighting System

Author: Ivan Berton, Volketswil, Switzerland

The magnetic fixtures are also electrical contacts

Here is another example for using your super magnets. The magnetic fixture is also the electrical contact. With such a large product line on offer from supermagnete, the possibilities for designing the fixture are nearly endless.



The transformer, which converts the normal 230 volts into the less dangerous 12 volts, hides in the middle element. The transformer is attached to an aluminum framework within the transformer box.

The transformer is also short-circuit-proof... ;-)



The transformer is hidden in here

Materials used for the transformer box:

mirror, wood

Both wood and mirror are held to the aluminum framework using the disc magnets S-15-03-N (www.supermagnete.de/eng/S-15-03-N), S-10-05-N (www.supermagnete.de/eng/S-10-05-N) and S-08-03-N (www.supermagnete.de/eng/S-08-03-N).



(Magnets were glued to the aluminum, counter magnets were glued to the mirror and countersunk in the wood.)

Here you can see the contact beam. The beam is made of wooden slats which were glued under pressure to ensure that they hold their form. Channels were milled into the slats to lay the electric cables.



The contacts in the beam are formed using M10 screws countersunk into the wood and connected to the electric cable.





Close-up

To connect the lamps to the beam, one can use all types of magnets and magnetic materials that also conduct electricity and will hold the weight of the lamp.

Magnets used in this example:

K-19-C (www.supermagnete.de/eng/K-19-C), K-10-C (www.supermagnete.de/eng/K-10-C), Q-10-10-05-N (www.supermagnete.de/eng/Q-10-10-05-N)



Magnets used in this example:

K-19-C (www.supermagnete.de/eng/K-19-C)

K-13-C (www.supermagnete.de/eng/K-13-C)

K-10-C (www.supermagnete.de/eng/K-10-C)



Magnets used in this example:

K-19-C (www.supermagnete.de/eng/K-19-C)

S-05-25-N (www.supermagnete.de/eng/S-05-25-N)

Steel balls 13 mm (www.supermagnete.de/eng/ST-K-13-N)



Magnets used in this example:

K-19-C (www.supermagnete.de/eng/K-19-C)

K-13-C (www.supermagnete.de/eng/K-13-C)

R-10-07-03-DN (www.supermagnete.de/eng/R-10-07-03-DN)



The actual lamps naturally have to have electrical contact, which has been provided here with the K-10-C (www.supermagnete.de/eng/K-10-C).



The glass bulb is held to the green Vetronit using three S-05-25-N. The direction of the magnets is such that they are slightly attracted to each other so that they won't easily fall off.





Articles used

- K-19-C: Sphere magnet Ø 19 mm (www.supermagnete.de/eng/K-19-C)
- K-13-C: Sphere magnet Ø 12,7 mm (www.supermagnete.de/eng/K-13-C)
- K-10-C: Sphere magnet Ø 10 mm (www.supermagnete.de/eng/K-10-C)
- S-05-25-N: Rod magnet Ø 5 mm, height 25 mm (www.supermagnete.de/eng/S-05-25-N)
- ST-K-13-N: Steel balls 13 mm (www.supermagnete.de/eng/ST-K-13-N)
- S-15-03-N: Disc magnet Ø 15 mm, height 3 mm (www.supermagnete.de/eng/S-15-03-N)
- S-10-05-N: Disc magnet Ø 10 mm, height 5 mm (www.supermagnete.de/eng/S-10-05-N)
- S-08-03-N: Disc magnet Ø 8 mm, height 3 mm (www.supermagnete.de/eng/S-08-03-N)
- R-10-07-03-DN: Ring magnet Ø 10/7 mm, height 3 mm (www.supermagnete.de/eng/R-10-07-03-DN)
- ST-K-08-N: Steel balls 8 mm (www.supermagnete.de/eng/ST-K-08-N)
- ST-K-10-N: Steel balls 10 mm (www.supermagnete.de/eng/ST-K-10-N)
- ST-K-20-N: Steel balls 20 mm (www.supermagnete.de/eng/ST-K-20-N)

Online since: 18/11/2007

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