

Technical data for retaining magnets and raw magnets



Construction:

Pot magnets are magnetic systems that, due to their technical structure have only one magnetic face. Unlike raw magnets, pot magnets only exert a magnetic force on one face. This design enables the spatial effect of the magnetic field to be limited. This prevents unwanted magnetisation of workpieces or machine elements by the pot magnet.

Raw magnets are not magnetic systems, all the faces are magnetic.

Version:

Shallow pot magnet:

The magnetic core is moulded or pressed into a housing. There is a non-magnetic barrier between the magnet and the housing, ensuring a shielded system.

Retaining magnets:

The magnetic core here is enclosed in a plastic sheath. Their construction makes these magnets particularly suitable for use on noticeboards and thin metal sheets.

Button magnets / horseshoe magnets:

These are unshielded systems with a divided magnetic face.

Magnets with protective rubber jacket:

The magnet is encased in rubber, which helps to protect sensitive surfaces.

Raw magnets:

These are always unshielded systems. All of the faces are magnetic.

Deep pot magnets:

These are magnets with a permanent magnetic core which is isolated from the housing by a non-magnetic shield. This ensures a shielded system.

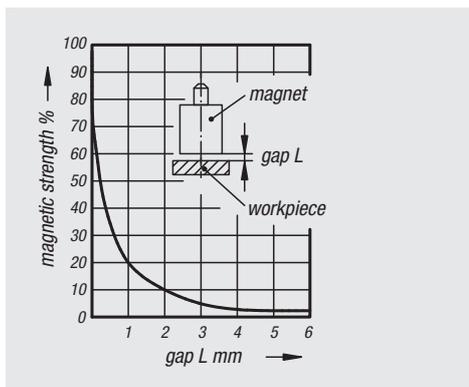
Properties:

| Description | Reference to designation | Weak ←————→ Strong | | | |
|-----------------------|-------------------------------|--------------------|--------------|--------------|--------------|
| | | Hard ferrite | AlNiCo | SmCo | NdFeB |
| Magnetic force | Magnetic remanence | Hard ferrite | AlNiCo | SmCo | NdFeB |
| Repeatable adsorption | Retention force | AlNiCo | Hard ferrite | SmCo | NdFeB |
| Mechanical strength | - | SmCo | Hard ferrite | NdFeB | AlNiCo |
| Corrosion resistance | - | NdFeB | AlNiCo | SmCo | Hard ferrite |
| Temperature stability | Material specific Curie point | NdFeB | SmCo | Hard ferrite | AlNiCo |

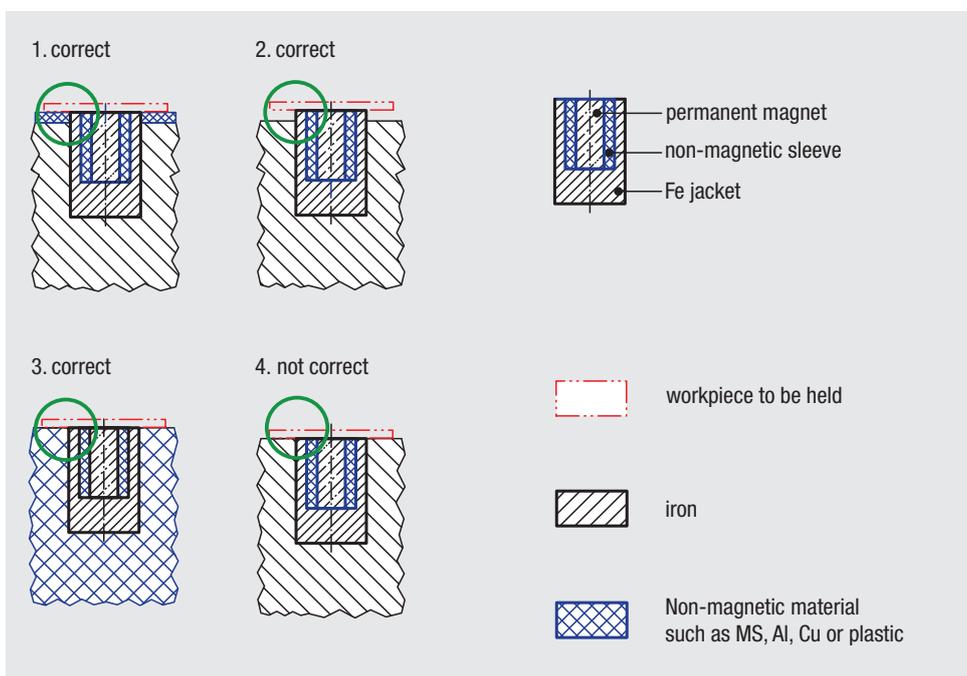
Long-term heating or alternating thermal stresses may lead to mechanical changes in the magnet system. In many cases, however, they have no influence on the function. The same applies to chemical stresses (chemical baths, aggressive gases, etc).

Magnetic strengths:

The indicated magnetic forces are minimum values which are achieved by a vertical pull-off and full face contact. By dirty pole faces or uneven workpieces, air gaps are formed which sharply decrease the magnetic force. In general, the attractive force of a magnet decreases as the air gap increases. It is therefore advisable to always ensure a clean pole face and clean it from time to time. Non-magnetic barriers have the same effect as air gaps.



Mounting instructions for shielded pot magnets without pins



1. Unwanted magnetisation of machine parts and components is prevented through non-magnetisable materials.
2. Sufficiently large air gap between workpiece and magnetisable material.
3. Use of non-magnetisable material for the machine parts or components prevents unwanted magnetisation.
4. Unfavourable because the workpiece is placed on a magnetisable material. This causes unwanted magnetisation of machine parts or components.