

**Electro-permanent lifting magnets
for eye vertical coils.**
An alternative to mechanical tongs.

**Specifically suited for annealing bay
operations. Consolidated solution
with repetitive references such as
Posco, Dongbu Steel, Hylsa and APM.**

More than 35 magnets sold since 1996 for coils
going from 10 to 45 tons.

Absolute safety

Resulting from the combination of the SGM electro-permanent magnet technology and the SGM safety monitoring device FMD

- The lifting force of the Electro-permanent magnets is independent from external energy sources = no accidental drops of the load as a result of power failure or cable interruption.
- The lifting force of the electro-permanent magnet is constant in time = no

accidental drops of the load as a result of a reduction in magnet lifting force.

- Prior to every lift, the SGM patented Flux Measuring Device FMD checks the lifting safety conditions under which the electro-permanent magnet is working (contact conditions between surface of the load and magnet polarities).
- No need for operator to get in contact with or stay by the coil. Magnet system can be operated from a safe



distance using radio control or from crane cabin.

- Technology of the electro-permanent magnet controllers facilitates the creation of safety redundancy
- Special recommendation for the use of electro-permanent magnets is made for locations where sudden interruptions of main electrical power may happen inadvertently.



Productivity

- No need for changing lifting device in that the same electro-permanent magnet is used for handling the coils, the convector plates and the annealing bay bells

- Approach and contact with coil can be controlled a lot better than with mechanical tongs allowing for a drastic diminution of typical damages to coils provoked by tongs. Customers receive the exact coil lengths they request and magnet user saves on scrapping damaged coil turns.

Before changing to electro-permanent magnets, Posco had to throw away up to 10 turns of the coil.

- The electro-permanent magnet requires just a few seconds to grip and release a coil.



User friendly

- Operation is typically through radio control or from the crane cabin.

- Unlike mechanical tongs, electro-permanent magnets are maintenance free as there is no heat generation inside the magnet and no moving mechanical parts.

- Compactness of the electro-permanent magnet results in a stable approach



to the coil and an easy centring of the magnet on the coil.

- The electronic controllers for electro-permanent magnets are technologically less sophisticated than the ones for electro-magnets.

This, combined with the fact that unlike electro-magnets, electro-permanent magnets do not generate heat when energised, makes the electro-permanent magnet technology easier to maintain.

No need for battery back-up.



Designed and manufactured according to European standards EN 13155.

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