

# ***Magnet Beam and Suspension***

***Make a difference!***

***TRUNINGER magnet systems***



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# More than a set of Magnets

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## 1. Excellent vehicle always have excellent suspension

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There are many excellent vehicles in the world. They always have a high-performance engine, suitable tire, beautiful body, etc. Less visible but very decisive for the car performance are the suspensions.

The suspension supports the vehicle's body, brings the power on the road by balancing forces and maintaining the wheel's contact and grip. Also shocks and road imperfections are absorbed by the suspension.

Suspension and its characteristics need to be designed to match the purpose of the vehicle and the condition of the road. Only then we will achieve high performance, comfortable ride qualities and safety.

Similar considerations apply to magnet systems!



## 2. Adaption to load deflection

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Thin, long and wide steel material do deflect significantly, disturbing full contact of magnet poles and load.

This reduces the lifting capacity of magnets a lot, the load tends to "peel off" the magnets. Do we need to apply bigger or more magnets, higher electric power or what?

The solution is rather found in proper suspension & beam design to allow maximum performance per weight for the magnets applied.



### 3. Matching design vs high power

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TRUNINGER designs suspension and magnet beam in order to exactly follow the bending characteristics of the load. Steel material gripped by TRUNINGER magnet system will freely bend and the suspension will follow the bending shape. Equal load distribution between magnets is maintained. This results in full lifting force of the magnets and safe grip of material for the whole load spectrum specified.

#### 1. Adaption of magnet suspension to load deflection



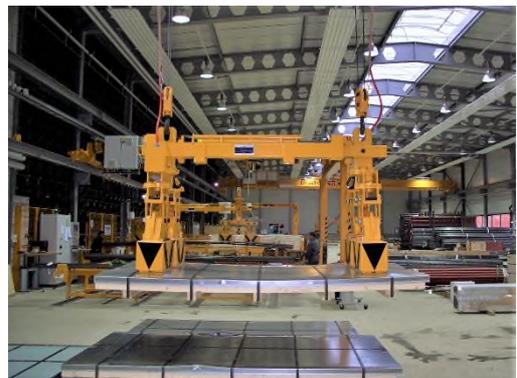
#### 2. Equal distribution of force among magnets



Matching number of magnets on an active beam effectively pick the rebar bundles. Additional magnets would rather “sit” on the bundle adding load and internal forces.

#### 3. Adaption of magnet system to length of load (active/passive telescope)

Adaption of magnet system to width of load (magnet rotation, side motion of magnets)



#### 4. Adaption of magnet system to load orientation (rotation device)



The load is rotated by motor drive. Human operators never contact the load. Man and material flow are strictly separated resulting in higher productivity and safety.

#### 5. Stability of transport

Two hook or multiple point of suspension crane result in high process stability. No tilting and no free rotation of load increases process speed and safety.



Magnet systems automate pick and place processes substituting manual interactions. Two hook cranes provide accurate load orientation and stability. Load is held in line and horizontally also when picked asymmetrically.