

## **Somaloy<sup>®</sup> Technology**

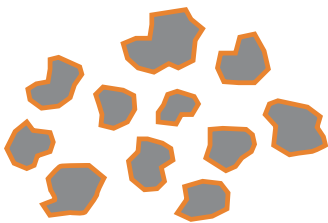
Compact, light and cost-efficient solutions

# Somaloy Technology

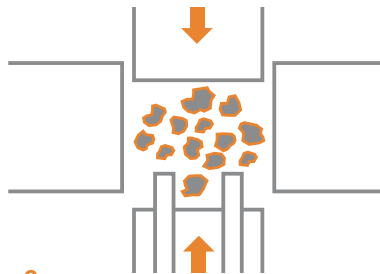
## What is Somaloy Technology?

Somaloy Technology is the Soft Magnetic Composite (SMC) concept brand from Höganäs. The key concept is to produce components with 3D magnetic properties by pressing Somaloy powder to desired shape. Somaloy materials are composed of surface-insulated iron powder particles, which in one single step can be compacted to form components with complex shapes and tight tolerances. Component manufacturing is based on the globally established, low cost PM-method.

It is the 3D magnetic properties and the net shaping capabilities of Somaloy materials that open up new opportunities to design compact, light and cost-efficient solutions. Cost reduction can be obtained by reducing the total raw material cost as well as more efficient manufacturing and assembly. Somaloy technology meets future demands on efficiency, cost, performance and recyclability – in short a technology for the future!



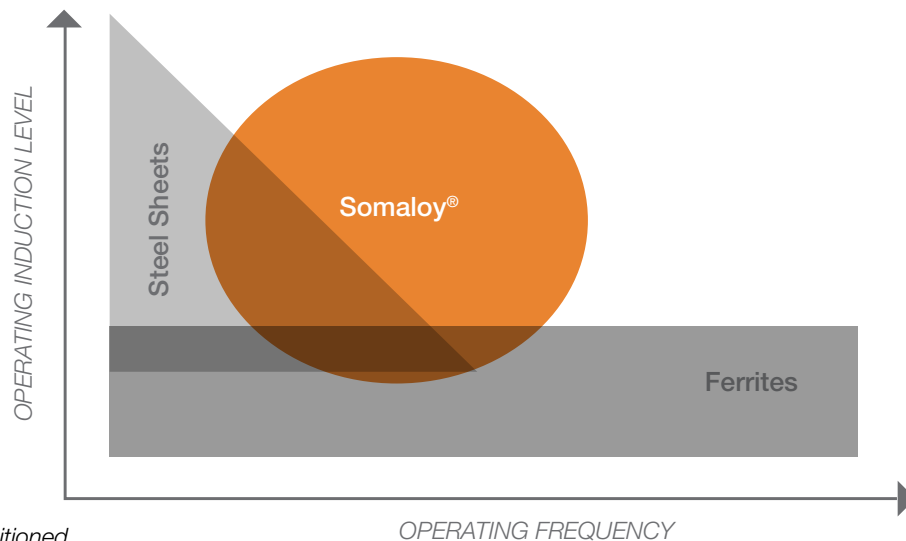
1.  
"Nano coated" Fe-particles  
Proprietary technology



2.  
Uni-axial pressing and  
thermal processing



3.  
3D Net shapes  
3D Properties



Somaloy is uniquely positioned  
Over-bridging traditional materials

### Target Applications

Höganäs offers a complete Somaloy product range that ensures optimal function for various electromagnetic applications ranging from DC up to hundreds of kHz. Each Somaloy product is available as a press-ready mix, which is customised for the specific application.

- Compact electrical motors
- Pulse transformers/Ignition systems
- Fast switching actuators/Fuel injection
- Inductive components
- Sensors

### Selected Somaloy customers and end-users

- ABB
- Aisin Seiki
- Bosch
- Denso
- Cummins
- Delphi
- SEM
- MDEXX-Siemens
- JTEKT

### Höganäs AB - Your Partner

Besides our core competence in Somaloy materials we also possess unique knowledge about their applications extending all the way from motor design to analysing capabilities using 3D FEA tools.

- Extensive product portfolio
- Commercial competence
- Production support
- Training and education
- Material characterization
- Business case assessment
- Design assistance



*Bosch Diesel Fuel Injection*



*SEM Ignition System*



*Aisin Seiki Electrical Motor*



*Optelec Power Factor Correction Choke*



*JTEKT Sensor Application*



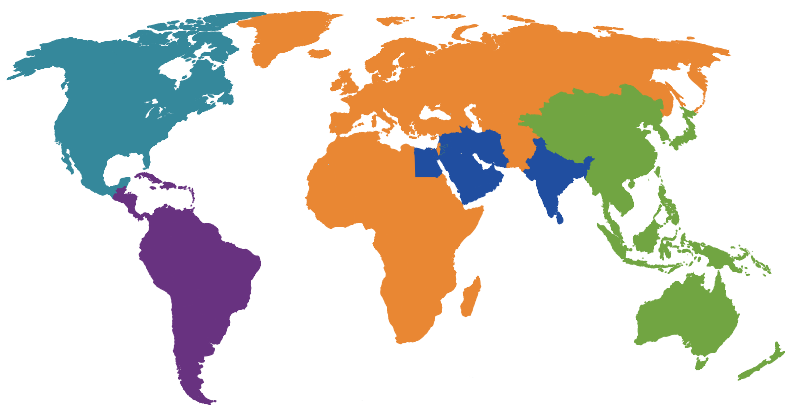
*ABB Industrial Servo Motor*

## Power of Powder

Metal powder offers entirely new possibilities to create more effective, lighter products with a reduced environmental impact. By combining the right alloy with a suitable morphology of the powder grains, new opportunities open up to match your challenges. Contact us and together we will release the power.

Metal powders are traditionally used to manufacture sintered components for vehicles. But there is a lot more to them. By fortifying food with elemental iron, anaemia can be reduced. By coating with nickel, glass bottle production life is prolonged with wear and temperature resistance. By employing new iron based powders, high temperature brazing of heat exchangers is possible. By utilising the three dimensional magnetic flux of encapsulated metal powders, smaller electrical motors can now be produced. And so on.

In fact, the possibilities of metal powder technology are almost endless. To take advantage of the inherent Power of Powder, please contact your nearest Höganäs office.



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