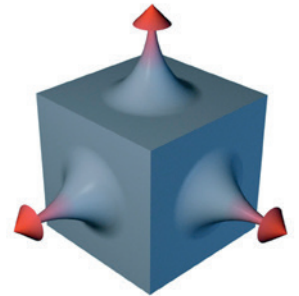


Somaloy®

Technology for ignition systems

# Somaloy<sup>®</sup> is the optimal material choice for ignition systems

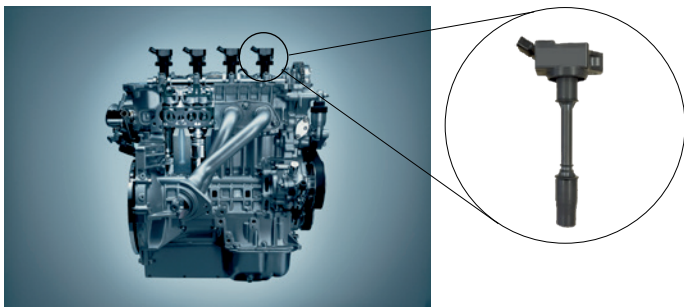
Somaloy is an isotropic, high resistive soft magnetic composite material for electromagnetic applications. The unique combination of high magnetic saturation, 3D flux properties and net-shaped components, makes Somaloy the optimal material choice for pencil coil and coil on plug ignition systems.



Somaloy is tailored for high volume, cost-efficient component production by utilising the Powder Metallurgy (PM) forming process. After compaction and heat-treatment the components are normally directly ready for further assembly into the magnetic circuit of the application. They enable the design of space-efficient coil/core assemblies in various motor topologies where high efficiency and compact design are required.

## Somaloy ignition core

Combustion engines run more efficiently together with high-power ignition systems. High energy storage is the core key. The Somaloy powder core for ignition systems generates high voltage energy output without compromising the size. The compact size ignition coil can be mounted directly on the spark plug. Thanks to higher energy output to the ignition, the fuel consumption becomes lower, which contributes to less emissions.



### Cost-efficient

- High productivity and cost competitiveness through an automated process
- Net-shaped 3D components made with very low scrap rate
- Pre-wound slide-on and tightly wound coils

### Compact design

- High volumetric efficiency
- Flexible solutions thanks to 3D properties
- Greater design freedom

### High performance

- High magnetic saturation
- High voltage energy output
- Fast and accurate ignition



# Be inspired - concept solutions

## Pencil coil core concept

These concepts are examples of a single compacted component. The concepts enables fitting in any type of pencil coil within the small area between the cams. Delivers high voltage directly to the spark plug.



## Modular coil core concept

These concepts are made from modular compacted components with a very simple assembly. These examples gives you great design freedom, taking advantage of other dimensions compared to laminated steel sheets.



**These concepts are especially suitable for pencil coil and coil on plug ignition systems.**

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## Recommended Somaloy<sup>®</sup> materials for ignition cores

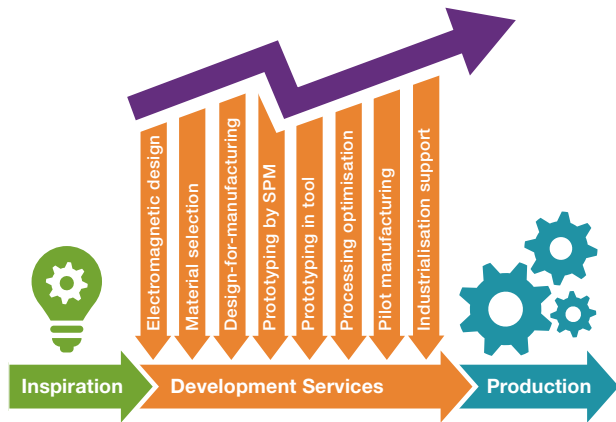
Somaloy grades are available in various formulations. The press-ready mixes combined with optimised processing results in components with different performance levels. Thanks to optimised strength and permeability, the 3P performance level matches the requirements of high-performance ignition applications.

### Typical data\*

Somaloy material	Resistivity [μOhm m]	Density [g/cm <sup>3</sup> ]	TRS ambient [MPa]	B@ 4000 A/m [ T ]	B@ 10000 A/m [ T ]	B@ 50000 A/m [ T ]
<b>Large particles #40</b>						
Somaloy 700 1P	400	7.45	40	1.31	1.56	1.97
Somaloy 700 3P	200	7.57	125	1.37	1.61	2.01
Somaloy 1000 3P	70	7.56	140	1.42	1.63	2.00

\*Conditions: internal lubrication and compaction pressure 800 MPa.

# Driven by a vision



Fast forward to cost-effective production



**We will share the knowledge and the success factors to help you achieve your vision.**

Our target is to speed up time-to-market for our customers, and by providing development services, Höganäs supports you from idea to high volume production. This will give you the benefits of cost-effective manufacturing, compact component design and high performance applications.

## Höganäs – your business partner

Höganäs is the world's leading producer of iron and metal powders. As an established business, you can rely on Höganäs to deliver whatever matches your needs. Höganäs has been developing soft magnetic composites for more than 15 years and we are well experienced in motor technology. As a major supplier to the automotive industry, Höganäs works with all the recognised quality standards.



With exclusive know-how of Somaloy® material, design and production process, Höganäs will inspire and guide you through the new generation of material technology in your development project.

### Höganäs short facts

- 3,000 customers in 75 countries
- More than 1,500 products, mostly customer specific, from 13 production centres
- Around 700 granted patents
- Turnover 2015: 7,590 MSEK
- 1,800 employees
- Established in 1797 as a coal mining company
- Owned by FAM and Lindéngruppen

### Find out more

Contact your local sales representative or visit [www.hoganas.com/somaloy](http://www.hoganas.com/somaloy)