Arcanum’s Spatially Optimized Diffusion Alloy (SODA) technology combines the best attributes of individual alloys into a new composite material.

Arcanum’s products eliminate the need to choose between characteristics of one material over another – you can now have the best of both.

Additionally, Arcanum’s products can also produce alloy compositions and gauges that cannot be manufactured by casting and rolling in the traditional sense.

SODA can be performed on sheet, wire, formed parts, and many other form factors.

The surface alloy is diffused into a prescribed depth during annealing to meet the exacting specification of the application.

The SODA process uses current steel coil manufacturing processes and equipment making it easily scalable.

Arcanum has the ability to develop a surface alloy using 100% of the important steel alloying elements used today to fit your specifications.

OPTIFORM®
- Low carbon steel core with stainless steel surface alloy
- Perfect where stainless steel requires improved formability
- Formability of low carbon steel with the surface properties of stainless
- Our material is weldable - MIG, TIG, ERW
- Good corrosion and high temperature oxidation resistance
- Surface alloy layer extremely resistant to scratches and gouges

OPTICORE™
- High performance, light gauge, non-oriented electrical steel
- Ideal for high frequency electric motors, generators, and transformers
- Provides better induction AND lower core loss than competitors of the same gauge
- Eliminates the brittleness of 6.5% silicon electrical steels
- Improved performance leads to higher power density, a longer battery life, less energy lost due to heat, higher torque, and higher efficiency