

# Effect of the Size of Mechanically Milled Fe Powder on Its Magnetic Properties

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**Abstract.** Soft magnetic powdered materials are a specific group of materials of remarkable application potential, and they have been intensively studied by scientists to improve their magnetic properties. The shape, in which are usually these materials prepared (conventional sheets, crystalline ribbon prepared by rapid solidification technology etc.), is in many cases not suitable shape for industry applications. One of the ways to prepare material suitable for industrial applications (3-d material) is the compaction of powder, which can be produced by the mechanical milling of mixture of powders, thin ribbons, sheets, etc. The presented work describes the explanation of the influence of the mechanical milling of iron powder. The material prepared by mechanical milling exhibits excellent soft magnetic properties and they are usually part of the compacted material for different applications.

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