



## PRODUCT DATASHEET

# 1K101 Fe-based Amorphous Ribbon

High-efficiency alternative to silicon steel

DG Focus Technology Co., Ltd. · Source page: [product-1k101-ribbon.html](#) · Compiled 25 September 2026. Values are copied from that page.

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Fe-based amorphous ribbon (1K101) with a long-range disordered atomic structure, used to reduce no-load losses in distribution transformers by 60%–80%. Figures below are copied from the product page.

## Published comparison versus silicon steel

| Parameter                           | Published value                                      |
|-------------------------------------|------------------------------------------------------|
| <b>Microstructure</b>               | Amorphous (disordered); silicon steel is crystalline |
| <b>Production process</b>           | ~10 m single-step; silicon steel ~1000 m multi-step  |
| <b>Standard thickness</b>           | 25 µm; silicon steel 300–350 µm                      |
| <b>Core loss (P 1.35 T / 50 Hz)</b> | 0.1–0.14 W/kg; silicon steel 0.85 W/kg               |
| <b>Resistivity (ρ)</b>              | 130 µΩ·cm; silicon steel 45 µΩ·cm                    |
| <b>Vickers hardness (Hv)</b>        | 860–940 Hv; silicon steel 180 Hv                     |
| <b>Saturation induction (Bs)</b>    | 1.56 T; silicon steel 1.8–2.0 T                      |

## Applications

As published on the product page:

- Distribution transformers (60%–80% no-load loss reduction, as stated on the page)
- 3D triangular wound cores
- High-efficiency motors
- Solar inverters
- Data-center power distribution and UPS
- Smart-grid power conversion

## Published notes

- The page states rapid-quench cooling of  $10^6$  °C/s and an 80% reduction in manufacturing energy versus silicon-steel processing.
- The page states PPAP Level 3 readiness for the manufacturing process.
- The page states each amorphous transformer reduces CO2 emissions by 5–10 tons annually compared with silicon steel equivalents.

**Not published on this product page.** These items are omitted rather than estimated:

- Initial permeability (µi), Curie temperature, and saturation magnetostriction are not published on this page.
- This is an amorphous ribbon. Saturation magnetostriction is not a published rating on this page.

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