

Project title "Industrial research on new producing method of nanocrystalline stacked cores"
co-funded from European Regional Development Found
under Innovative Economy Programme
Project number UDA-POIG.01.04.00-24-004/10-00

PROTOTYPE / PRODUCT DATA SHEET

1. Name of the prototype / product*

NANOCRYSTALLINE MAGNETIC STACKED CORE (NMSC)

2. Producer of the prototype / product*

MAGNETO LTD.

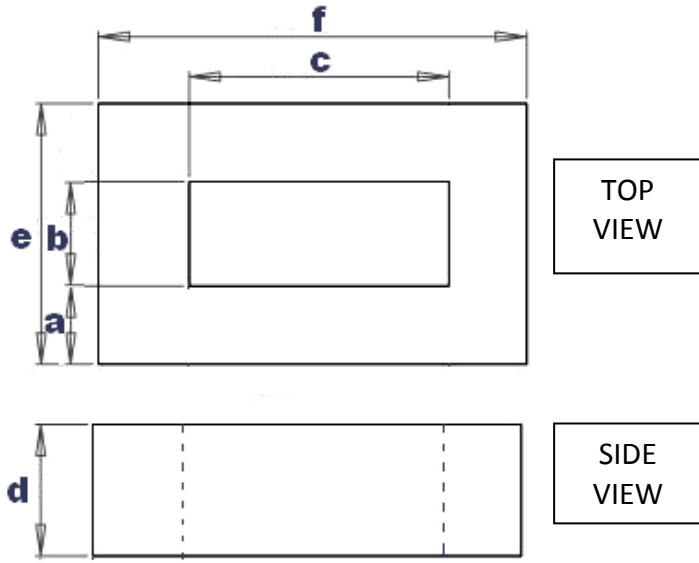
3. Description of the prototype / product*

DIMENSIONS (mm)	COLUMN WIDTH (a)	WINDOW WIDTH (b)	WINDOW LENGTH (c)	HEIGHT (d)	WIDTH (e)	LENGTH (f)	MASS (kg)
Core dimensions:	30 mm	40 mm	105 mm	85 mm	100 mm	165 mm	7
Tolerance (mm)	±0.2	±0.2	±0.2	±0.2	±0.2	±0.2	±2%
Coated core dimensions:	32 mm	39 mm	104.5 mm	89 mm	103 mm	168 mm	7,4
Tolerance (mm)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±2%

Test specification	Number of layers (different stacking method)	1	10	20	30	50	100	200	500
	Losses at 50Hz, 0.3T (W/kg)	<0.01		<0.012	<0.013	<0.015			
Tolerance		Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.

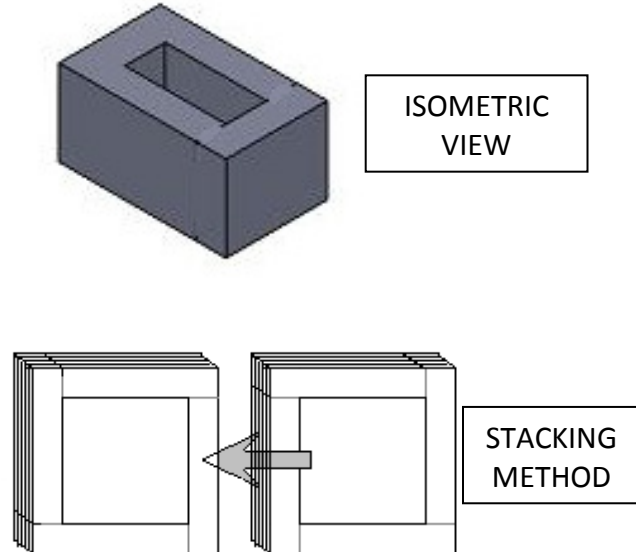
Construction specification	Stack factor	Magnetic path length (lm)	Cross section (Ac)	Window area (Wa)	Core area (Ap)
	%	cm	cm ²	cm ²	cm ²
	80	14.13	20.4	42	123
Tolerance	±2%	NOM.	NOM.	NOM.	NOM.

4. Visualization of the prototype / product*



TOP VIEW

SIDE VIEW



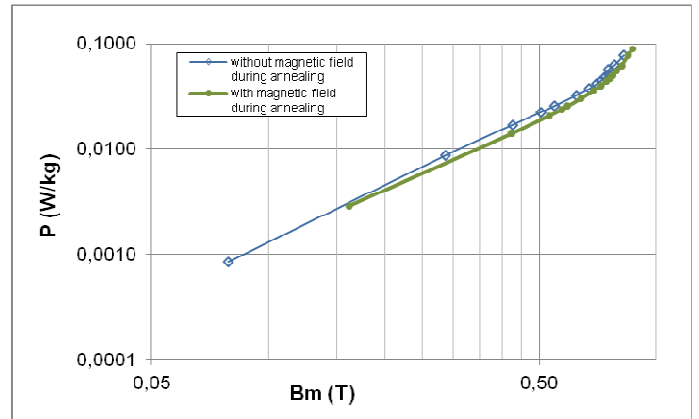
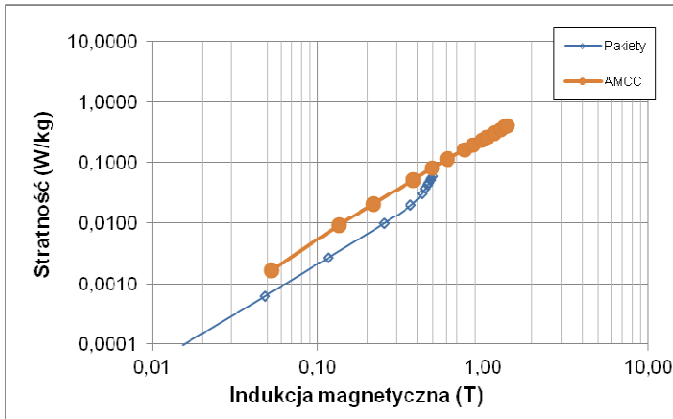
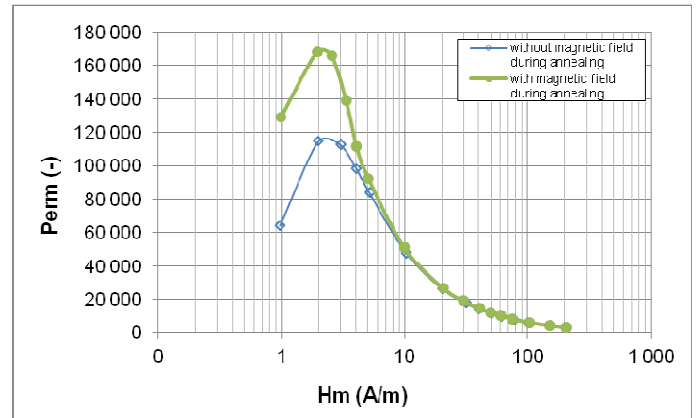
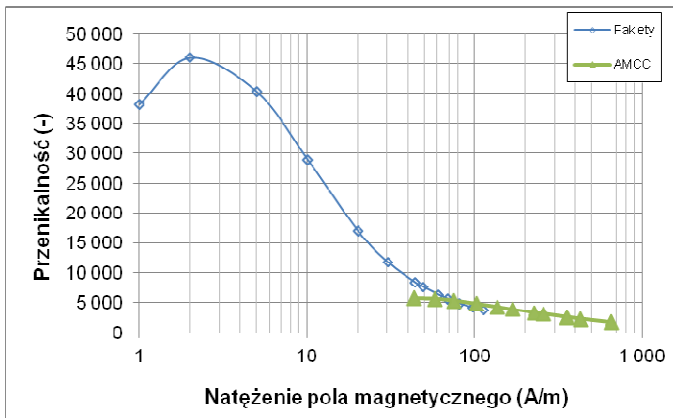
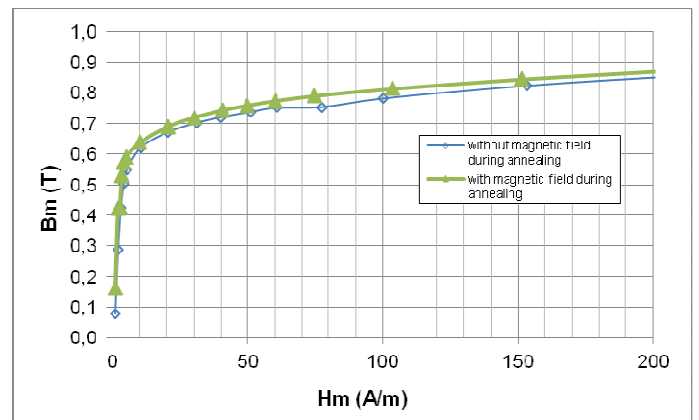
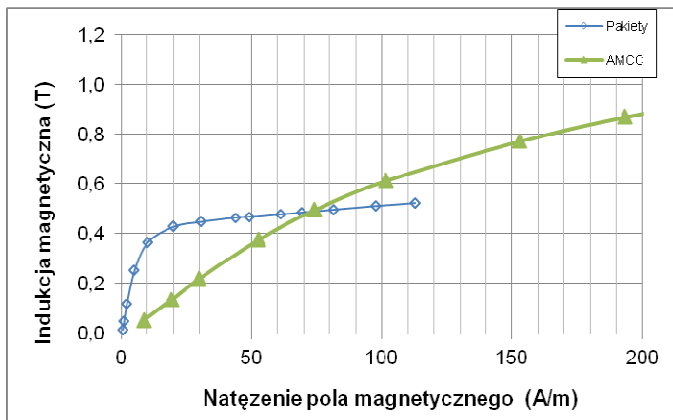
ISOMETRIC VIEW

STACKING METHOD

5. Potential customers for the prototype / product*

Potential customers are manufacturers of electronics and power electronics components and devices.

6. Innovation of the prototype / product*



Magnetic properties of nanocrystalline magnetic stacked core (Pakiety) – stacked 10 by 10 layers compared to amorphous wound cut core (AMCC), measured at 50Hz:

- magnetic induction B ,
- relative magnetic permeability μ_r ,
- power loss level P .

Magnetic properties of nanocrystalline magnetic stacked cores (stacked layer by layer) after thermal and thermomagnetic treatment:

- magnetic induction B ,
- relative magnetic permeability μ_r ,
- power loss level P .

* - cross through as applicable