

TECHNICAL SPECIFICATIONS

NO.HC-T-M-002

ITEM: SILICON ELECTRICAL STEEL SHEET

1. GENERAL

1.1 USA GE AND PURCHASING CONDITION

- a) For core manufacturing of Power Transformer.
- b) The silicon steel sheet should be in coil form and the packaging in vertical Axis Type and with metal protected containers.

The rolls of silicon steel sheet should be handled by crane or fork lift, but shifting by rolling is not allowed. Only one roll of silicon steel sheet may be lifted each time and attention must be paid to lower down the roll slowly to avoid impacting with other things. The silicon steel sheet must be continuously rolled without making any joint.

1.2 TECHNICAL SPECIFICATIONS

a) MATERIAL

Cold Rolled, Grain oriented H1-B Electrical Steel Sheet with improved crystal orientation, high permeability, low core loss low magnetostriction, low fabrication stress sensitivity.

Magnetic properties and laminations factor to the specification should be in conformity with Japanese industrial standard (JIS) C2550 (1986) OR AISI.

b) TECHNICAL DATA

i) Thickness	0.30 mm
ii) Width	1000 mm
iii) Max. Core loss at 1.7 T/50Hz	1.05 W/Kg
iv) Minimum Induction (at 800 A/m) =	1.87 – 1.88 T
v) Minimum Lamination Factor	95.5 %

c) TYPICAL MECHANICAL PROPERTIES

i) Tensile Strength (N/mm ²)	L = 343, C = 402
ii) Yield point (N/mm ²)	L = 333, C = 363
iii) Elongation %	L = 08, C = 34
iv) Bending test value	L = 21, C = 16
v) Hardness HV (1)	181

where L is taken longitudinal to the rolling direction & C is taken transverse to the rolling direction.

d) TOLERANCES IN DIMENSIONS AND SHAPE

i) Tolerance in thickness	± 0.03 mm or 0.02
ii) Deviation in thickness in transverse direction	0.03 mm or less
iii) Width	0.06 mm
iv) Permissible camber per 2 meters of length	1.0 mm or less

e) COIL PARAMETERS

i) Inside coil diameter	500-510 mm
ii) Weight per coil	Min. 2 Tons Max. 2.6 Tons

2. INFORMATION TO BE PROVIDED BY THE MANUFACTURER

2.1 Catalogue giving all relevant information pertaining to the silicon steel sheet.

2.2 Technical data sheet s. TB.1 to be duly filled in by the manufacturer.

2.3 Guaranteed and typical values, characteristic curves for all types of silicon steel sheet with different thickness.

Characteristic curves should be for: -

- 2.3.1 Core loss (W/KG) & Induction (Tesla).
- 2.3.2 Exciting power (VA/KG) & Inductance (Tesla).
- 2.3.3 Exciting force (A/m) & Inductance (Tesla).
- 2.3.4 DC-Magnetizations & DC-Permeability curves.
- 2.3.5 Actual hysteresis curves i-e- B-H loop.
- 2.3.6 Resistivity curves.

(April 2010)

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