

**BANMORE ELECTRICALS PVT LTD,India**

**Important physical properties of CRGO Electrical Steel**

Density gm/c3	7.65
Silicon content%	3.10
Resistivity micro Ohm-centimeter	48.00
Ultimate tensile Strength 00 to Rolling Direction Kg/mm2	32.60
Ultimate tensile Strength 900 to Rolling Direction Kg/mm2	38.20
Stacking factor % M4 (.27mm)	96.00
Stacking factor % M5 (.30mm)	96.50
Stacking factor % M6 (.35mm)	97.00

Approximate figure. May vary from Mill to Mill.

**CRGO Electrical steel / Flux/ Weight /Size related conversions table**

Term	To convert from	To be multiplied by
<b>Magnetic flux density B</b>	Tesla ( Wb/m <sup>2</sup> ) to Gauss	10 <sup>4</sup>
	Gauss to Tesla ( Wb/m <sup>2</sup> )	10 <sup>-4</sup>
<b>Magnetic field strength H</b>	Ampere-turns/meter to Oersted	0.0126
	Oersted to Ampere-turns/meter	79.6
	Ampere-turns/meter to Ampere-turns/inch	0.0254
	Ampere-turns/meter to Ampere-turns/cm	0.01
<b>Core Loss</b>	Watt/Kg to Watt/pound	0.4536
	Watt/pound to Watt/Kg	2.205
	Watts/Kg at 60Hz(1.5T)to Watts/Kg at 50Hz(1.5T)	0.75 for GO, 0.79 for CRNGO
	Watts/lb at 60Hz(1.5T)to Watts/Kg at 50Hz(1.5T)	(approximate)1.65 for GO, 1.74 for CRNGO

**Usual Building Factor During Production Of CRGO Core Assembly:**

**Final NO Load Losses = Watt per kg(AT DESIGNED FLUX) X CRGO weight + Building factor.**

(Stack core 3 phase, 3 limb) CRGO No load losses will increase by following % after core assembly.

If we minimize the burr level and handling, the lower % is easily possible.

It will also depend the of ratio of Window Height and Center leg length of the Transformer Core.

KVA RATING	Step Lap cutting Building factor (Approx)
5 KVA TO 16 KVA	25 to 35%
25 KVA to 63 KVA	25 to 30%
100 KVA to 315 KVA	21 to 23%
315 KVA to 2 MVA	20 to 22%
3.15 MVA to 5 MVA	17 to 21%
6.3 MVA TO 25 MVA	15 to 19%
25 MVA and above	11 to 14%