

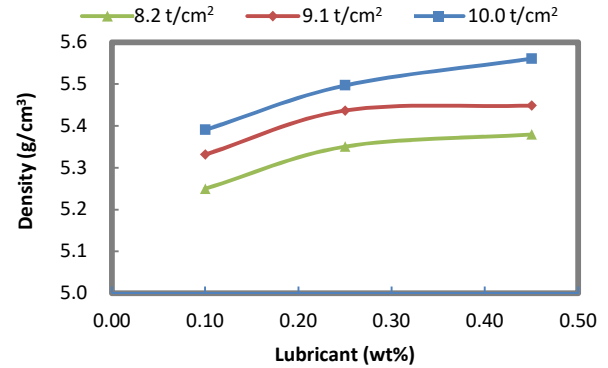
# FACTORS AFFECTING MAGNET DENSITY

## Amount of Lubricant

Higher amount of lubricant helps to improve the magnet density.

Lubricant Amount (wt %)	Density (g/cm <sup>3</sup> )		
	8.2 t/cm <sup>2</sup>	9.1 t/cm <sup>2</sup>	10.0 t/cm <sup>2</sup>
0.10	5.25	5.33	5.39
0.25	5.35	5.44	5.50
0.45	5.38	5.45	5.56

- 1.55 wt% epoxy
- Magnet density were measured on OD33.7\*ID30.7\*H25.4mm ring magnets

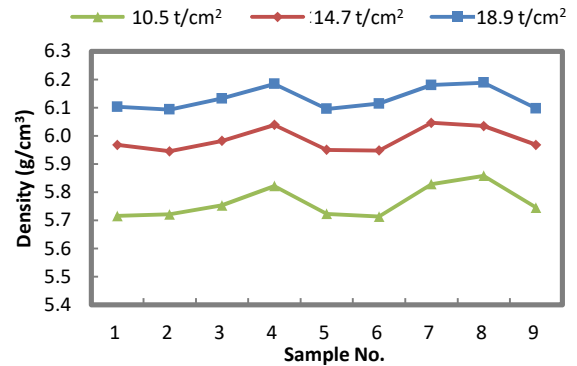


## Particle Size Distribution

Different particle size combination will affect magnet density.

Sample No.	Mesh Size			Density (g/cm <sup>3</sup> )		
	-40m~-80m	-80m~-200m	-200m	10.5 t/cm <sup>2</sup>	14.7 t/cm <sup>2</sup>	18.9 t/cm <sup>2</sup>
1	35%	50%	15%	5.72	5.97	6.10
2	50%	35%	15%	5.72	5.95	6.09
3	70%	15%	15%	5.75	5.98	6.13
4	70%	30%	-	5.82	6.04	6.18
5	70%	-	30%	5.72	5.95	6.10
6	80%	-	20%	5.71	5.95	6.11
7	80%	20%	-	5.83	6.05	6.18
8	90%	10%	-	5.86	6.03	6.19
9	90%	-	10%	5.75	5.97	6.10

- 1.55 wt% epoxy and 0.20 wt% ZnSt
- Magnet density were measured on OD27.3\*ID24.6\*H20mm ring magnets

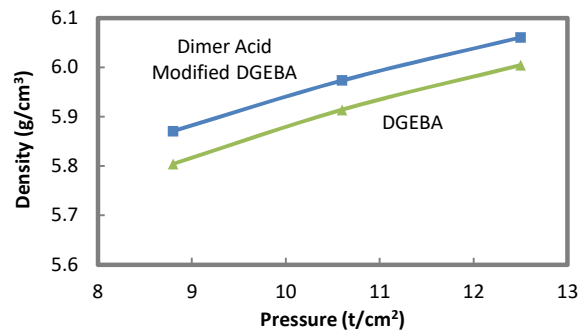


## Type of Epoxy

Dimer Acid Modified DGEBA can help to achieve higher magnet density.

Epoxy Type	Magnet Density (g/cm <sup>3</sup> )		
	8.8 t/cm <sup>2</sup>	10.6 t/cm <sup>2</sup>	12.5 t/cm <sup>2</sup>
DGEBA	5.80	5.91	6.00
Dimer Acid Modified DGEBA	5.87	5.97	6.06

- 1.55 wt% epoxy and 0.20 wt% ZnSt
- Magnet density were measured on OD27.3\*ID24.3\*H20mm ring magnets.



## Type of Lubricant Distribution Process

Uniform distribution of lubricant can help to achieve higher magnet density.

Process Type	Pressure (t/cm <sup>2</sup> )					
	3.3	4.0	4.6	5.3	6.0	6.6
Standard	5.7	5.8	5.9	5.9	6.0	6.0
Uniform distribution of lubricant	5.7	5.8	5.9	6.0	6.0	6.1

- 1.55 wt% epoxy and 0.10 wt% ZnSt
- Magnet density were measured on OD9.8\*H6.4mm (PC=2) cylinder magnets

