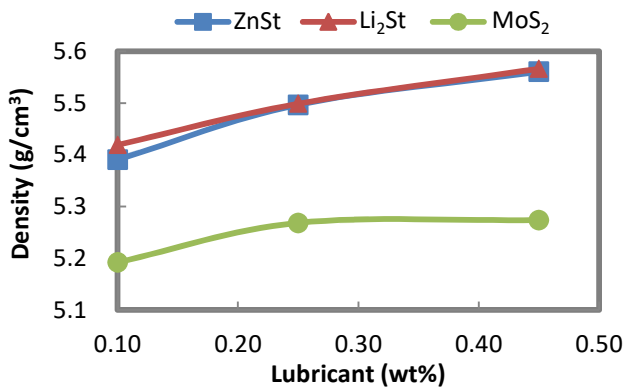


# EFFECT OF LUBRICANT TYPE AND AMOUNT ON COMPOUND AND MAGNET PROPERTIES

Lubricant Type	Lubricant Amount (wt %)	Compound Property			Magnet Property							
		Flowability (s/50g)	Apparent density (g/cm <sup>3</sup> )	Tap density (g/cm <sup>3</sup> )	B <sub>r</sub>		H <sub>c</sub>		H <sub>ci</sub>		BH <sub>max</sub>	
					(kG)	(mT)	(kOe)	(kA/m)	(kOe)	(kA/m)	(MGOe)	(kJ/m <sup>3</sup> )
ZnSt	0.10	28.2	3.29	3.73	7.04	704	5.66	450	8.99	715	10.1	80
	0.25	30.6	3.33	3.85	7.04	704	5.66	450	9.00	716	10.0	80
	0.45	32.2	3.29	3.79	7.04	704	5.62	447	8.94	711	10.0	80
Li <sub>2</sub> St	0.10	30.5	3.38	3.85	7.03	703	5.65	450	8.99	715	10.0	80
	0.25	33.1	3.33	3.86	7.05	705	5.67	451	9.02	718	10.1	80
	0.45	35.6	3.33	3.84	7.03	703	5.64	449	8.95	712	10.0	80
MoS <sub>2</sub>	0.10	35.6	2.94	3.68	7.02	702	5.65	450	8.99	715	10.0	80
	0.25	35.3	3.01	3.62	7.00	700	5.64	449	9.00	716	10.0	80
	0.45	34.4	3.16	3.85	7.01	701	5.64	449	9.01	717	10.0	80

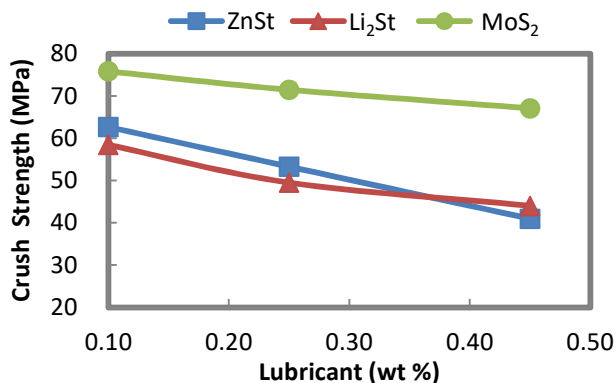
## Test Conditions:

- MQEP-B+-20056-077
- 1.55 wt% epoxy
- Flowability was measured through 2.5mm orifice as per ISO 4490 Standard
- 25ml of powder was used to test for apparent density as per ISO 3923/1 Standard
- 25g of powder was used to test tap density as per ISO 3953:1993 Standard
- Magnetic properties were measured on D9.8\*H6.45mm, PC=2 cylinder magnets pressed to 6.0g/cm<sup>3</sup>

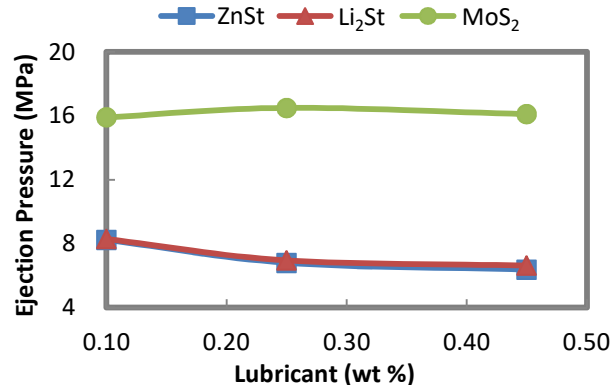


Density was measured on ring magnets D33.7 X ID30.7 XH25.4mm pressed at 10.0 t/cm<sup>2</sup>

- Higher lubricant amount helps to improve magnet density.
- In general, higher lubricant amount reduces the crush strength
- Higher stearate type lubricant also helps to reduce the ejection pressure
- No difference was observed between Li<sub>2</sub>St and ZnSt



Crush strength was measured on ring magnets OD20.8 X ID18.6 X H5mm pressed at 6.0 g/cm<sup>3</sup>



Ejection pressure was measured on cylinder magnets OD6 X H10mm pressed at 6.0 t/cm<sup>2</sup>