

## CHAPTER 5

### CONCLUSIONS

1. RHA-S and WS are the effective silica and alumina source for mullite production by slip casting technique.
2. Amount of DarvanC suitable for slip preparation is in between 0.3-0.4wt%. The slips exhibit shear thinning or pseudoplastic behavior.
3. Particle size of the solids plays a role in slip casting, too large particle size ( $>7-8 \mu\text{m}$ ) causes difficulty in mold removal, whereas too small particle size ( $<2.5-3 \mu\text{m}$ ) causes too much shrinkage before the casting finishes.
4. Particle sizes of solids significantly influence properties of the products. Smaller particle size of the solids of  $\sim 7-8 \mu\text{m}$  gives better properties than larger size of  $\sim 7-8 \mu\text{m}$ . But for high glassy phase containing sample, i.e. RHA-S: WS<sub>320</sub> = 40:60, particle size of solids do not cause any difference.
5. RHA-S:WS<sub>320</sub>=30:70 samples contains the most mullite and least residual silica. Its properties are comparable properties to the commercial grade products.