strength of both PC types. Perfect formation and quality of PC had been achieved up to 0.2% of retarder additive content. The compressive and flexural strength of both PC enhanced more than 1.3 and 1.5 times, respectively as compared to PC without retarder additive. Even though Ortho-GPOFA of polymer blended had satisfactory filing ability, the PC of Iso-GPOFA was better in terms of compressive strength. This is because isophthalic resin has a denser molecular structure which gives superior engineering properties to those of orthophthalic resin [23]. Thus, the retarder additive content is potentially viable to be used in both PCs at ambient room temperature of 30 ± 2°C.

3.4.2. Morphology

The results are also supported by morphology images which showed that the specimen with retarder additive had superior material bonding in polymer (Fig. 14a) to specimen without retarder additive (see Fig. 14b). Again, this further solidified the claim that polymer retarder additive can be used in PC since the curing process has been decelerated at ambient room temperature to produce good PC.

4. Conclusions

From the results of the experiments on the effect of polymer retarder additive in polymer concrete, the following conclusions can be drawn: