CHAPTER V

CONCLUSION AND SUGGESTIONS

5.1 Conclusion

5.1.1 The Preparation of temporary solder mask

The temporary solder masks were prepared from N-vinyl pyrrolidone-co-hydroxypropyl methacrylate in thermal polymerization condition. The required properties of temporary solder mask were adjusted by filler and additives such as releasing agent, thickening agent, acrylic polymer and white pigment extender. The optimum condition and properties of temporary solder mask are presented in Table 5.1 and 5.2.

Table 5.1 Formulation of temporary solder masks

The temporary solder mask A	The temporary solder mask B
1. N-vinylpyrrolidone (NVP) 28.57 phr 2. Hydroxypropyl methacrylate 23.81 phr 3. Releasing agent (silicone oil 350s) 5 phr 4. Thickening agent (T-45 acrylic polymer) 5 phr 5. Pigment (Titanium dioxide) 2 phr 6. Acrylic polymer (UT-50) 47.62 phr	1. N-vinylpyrrolidone (NVP) 2 phr 2. Hydroxypropyl methacrylate (HPMA) 2 phr 3. Poly(vinyl alcohol) (GH-17) 10 phr 4. Poly(vinyl alcohol) (GL-05) 5 phr 5. Poly(ethylene glycol) –150(PEG-150) 0.2 phr 6. Xanthan gum 0.2 phr

Table 5.2 The properties of temporary solder mask A and B

Properties	Standard	Value (A)	Value (B)
Tensile strength (MPa)	ASTM D638-99	3.17	23.21
% Elongation	ASTM D638-99	196.92	47.32
Adhesion (N)	ASTM D816-82	127.36	-
Adhesion	ASTM D3359-97	0B	0B
Viscosity	ISO 1652-1985(E)	66,900	30,000
pH value	-	6.56	6.13

Moreover, temporary solder masks can be printed through the polyester mesh count 120 T/cm. with good printability. This formulation of temporary solder masks is peelability, printability, has suitable viscosity and high temperature stability.

5.2 Suggestion

The method and conditions for enhancement of the product quality should be investigated, for example, different monomer, radiation curing, addition of additives etc.