oxide layer. One can see that commercial developing solution cause smaller degradation than NaOH solution.

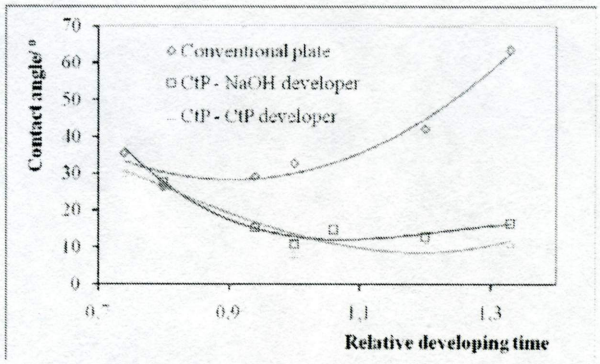

Figure 5: Comparison of wetting properties between all prepared samples

Figure 5 shows the behaviour of wetting properties on all samples in dependence on developing time. It can be seen that developing time is very important factor on the conventional printing plate where increase of developing time cause very significant increase of contact angle. The CtP plates are not so sensitive on increase of developing time, the properties of nonprinting areas are changed but the change is not high.

Conclusions

Performed investigations were based on the fact that the oscillations in chemical developing in the printing plate making process, either conventional or CtP could cause differences in the physical-chemical properties of the nonprinting areas.

The results obtained by this research proved the presumption that developing time has great influence on wetting properties of nonprinting areas. Comparing the CtP and conventional plates one can conclude that both can be developed in a solution of NaOH, but when using this kind of solution one must determine precisely the optimal developing time as to short or to long developing time cause significant degradation of wetting properties. In addition, on both plates wetting properties have similar behaviour; they increase its value until reaching maximum and then decrease again. Observing the results of contact angle measurement on CtP thermal plates one can see that both developer cause similar behaviour of the nonprinting areas. By all samples, results indicate that when dissolution of photoactive layer is finished, alkaline solution (developer) causes dissolution of aluminium-oxide peeks, decreasing roughness and reducing surface tension.

Nevertheless, observing the value of contact angle and determining where its minimum is could be method for defining optimal developing time.