



## REFERENCES

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**APPENDIXES**

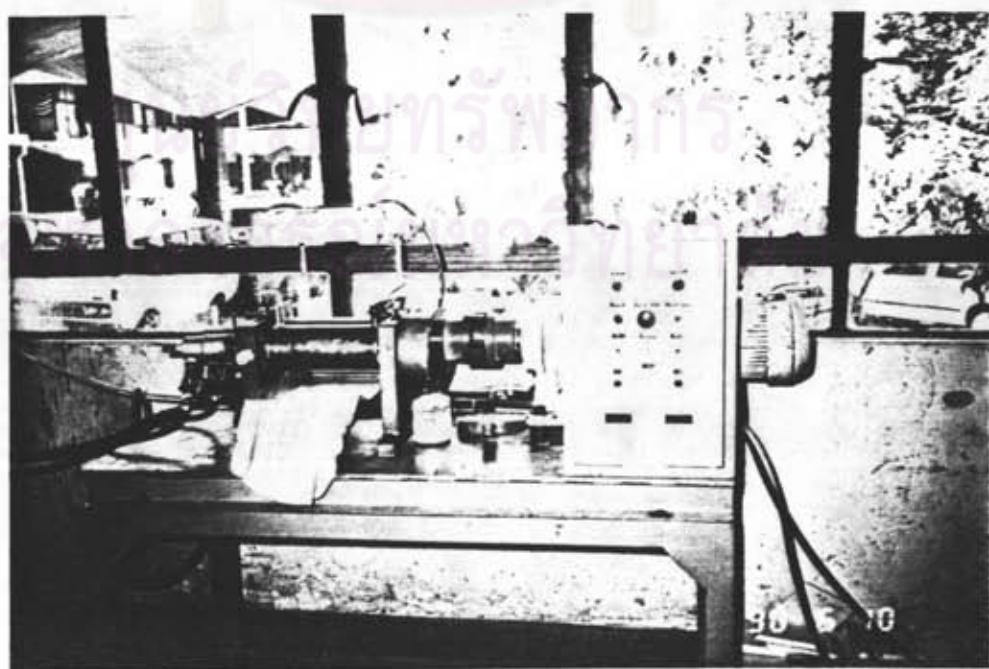
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APPENDIX A

Internal Mixer (Changthong mixer):

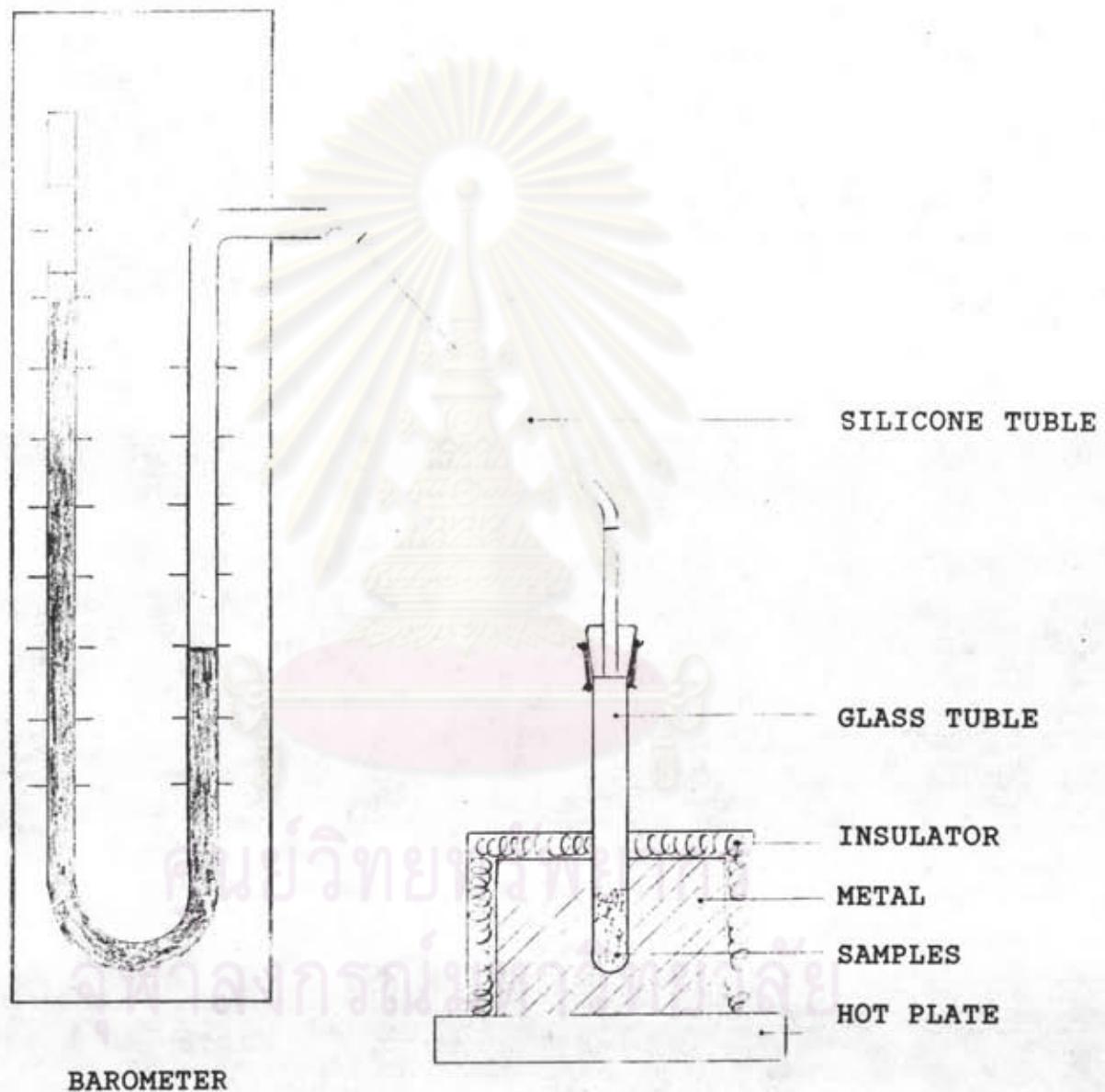


Two Roll Mill :



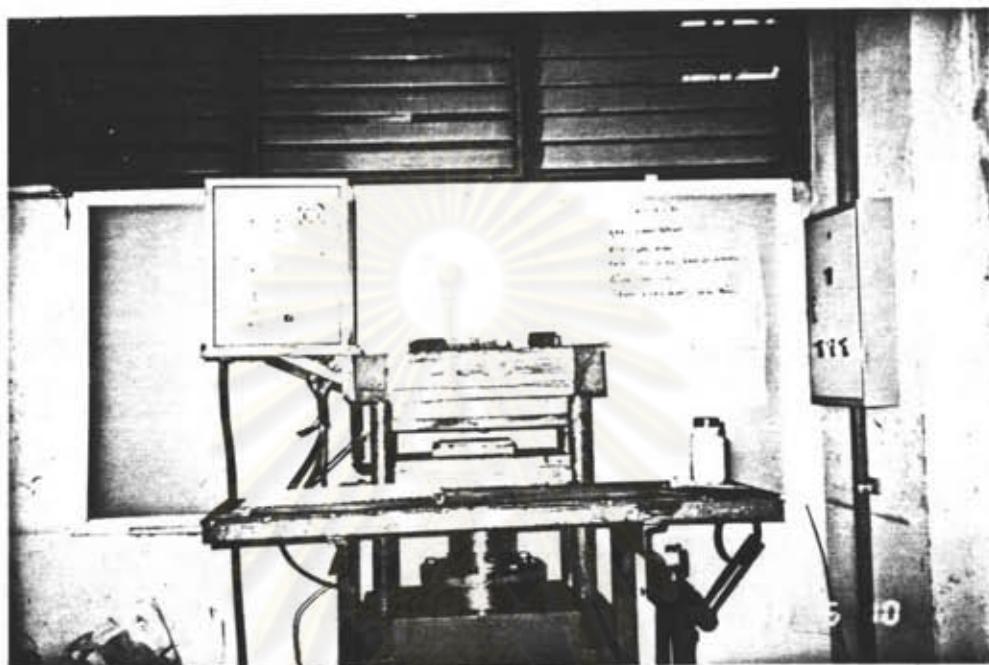
## APPENDIX B

## Gas Measurement Apparatus

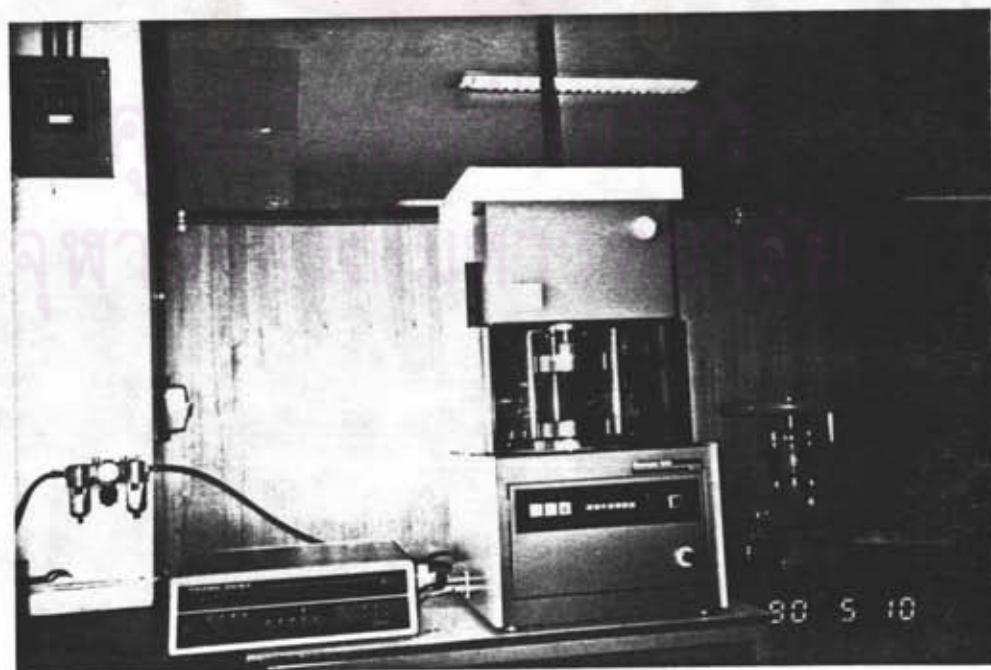


APPENDIX C

Hot-Press:



Rheometer:

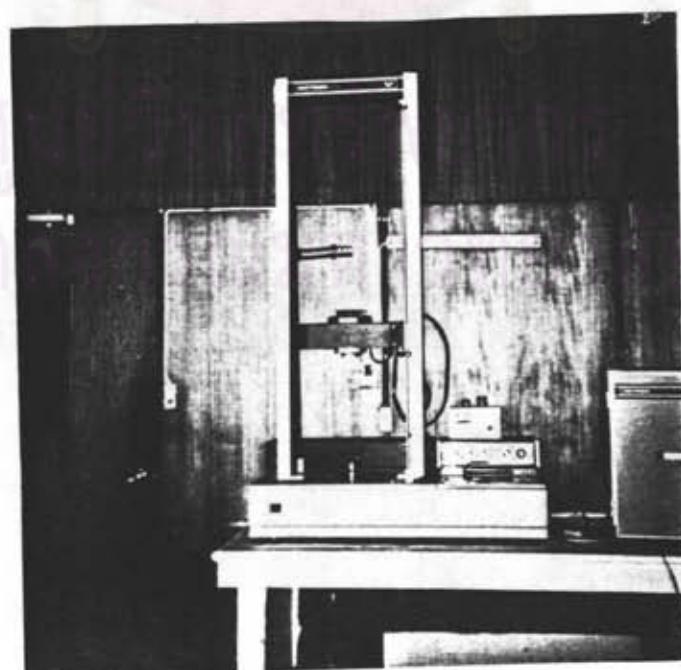


**APPENDIX D**

**Processability Tester:**

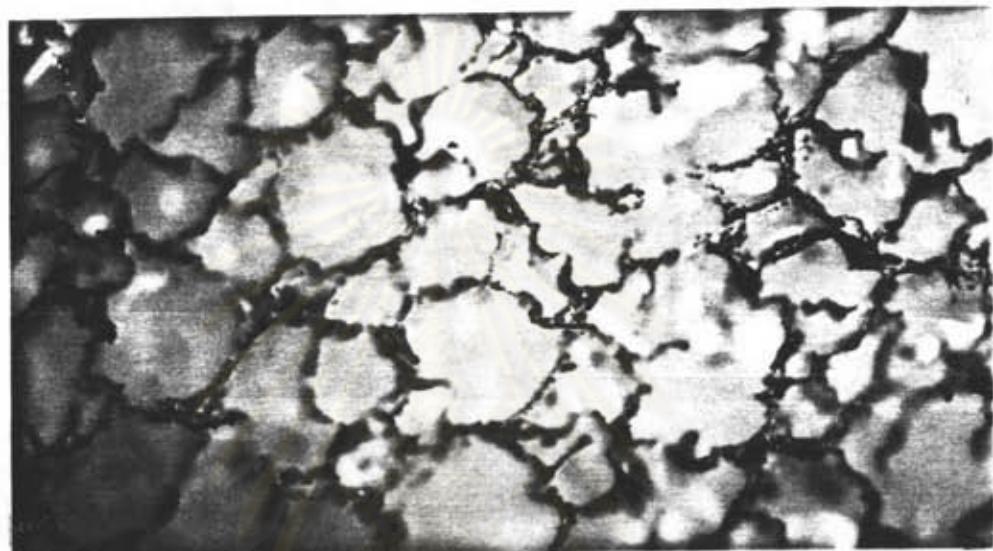


**Universal Testing Instrument:**

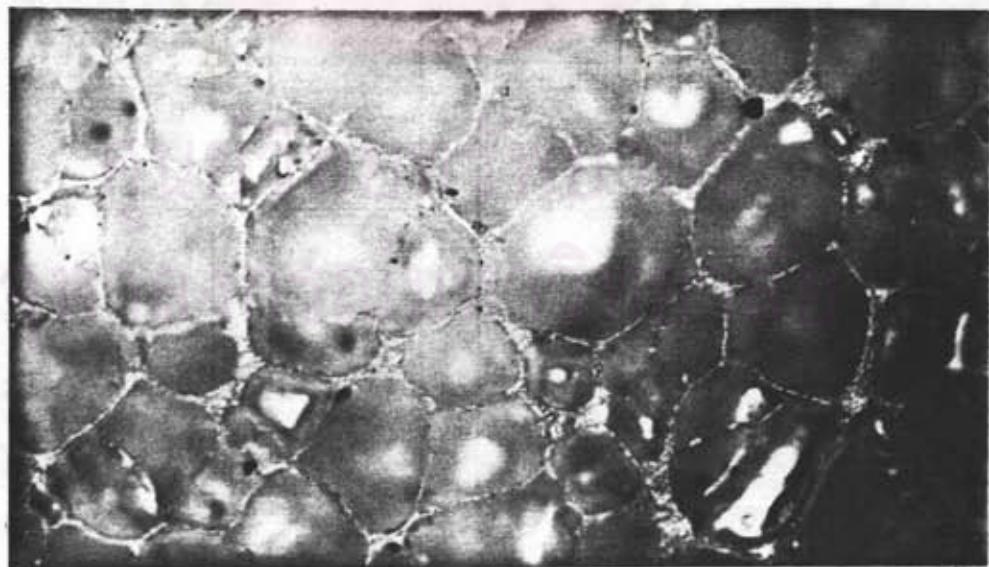


## APPENDIX E

Formulation 2:	Compounding stage 2	5	min
	Compounding stage 3	10	min
	Storage	1	hr
	Cure 165°C	23	min



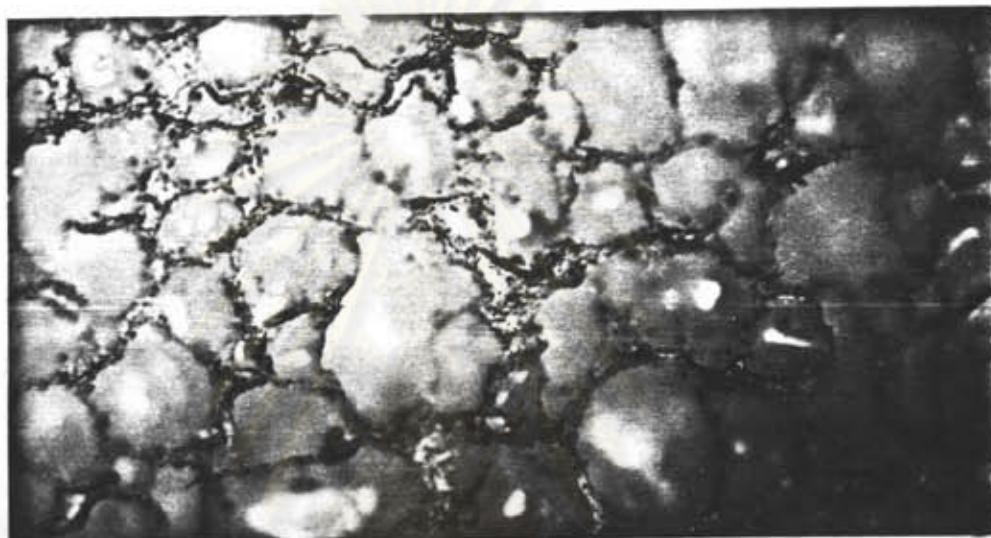
Compounding stage 1      25      min



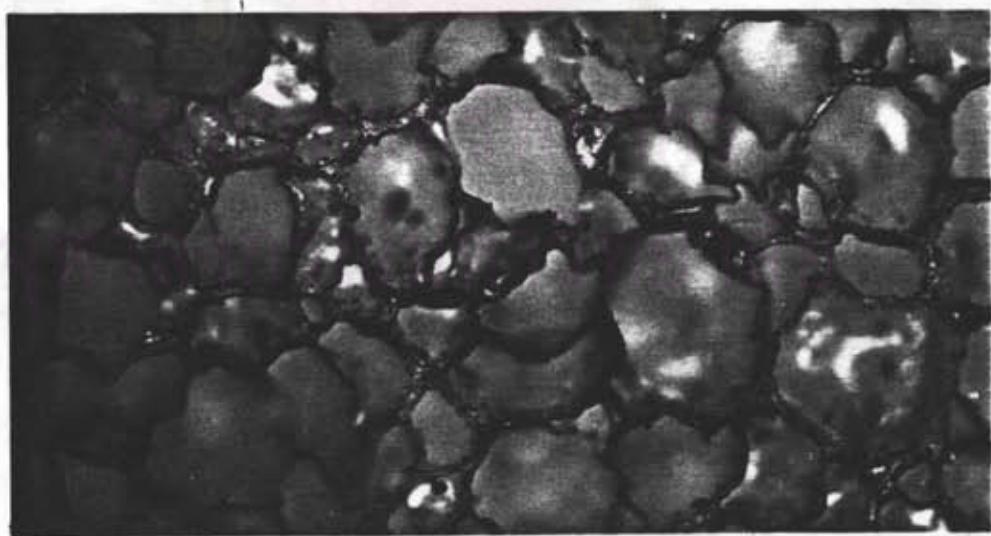
Compounding stage 1      30      min

## APPENDIX F1

Formulation 1,2,3 :	Compounding stage 1	30	min
	Compounding stage 2	5	min
	Compounding stage 3	10	min
	Storage	1	hr
	Cure 165°C	28	min

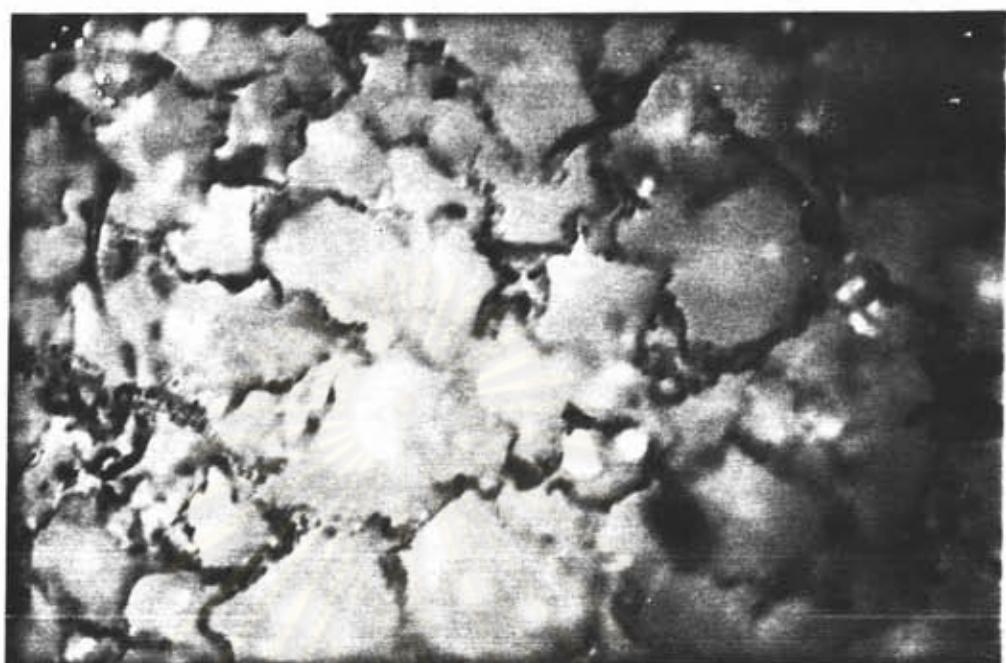


Formulation 1 AK#2 2.5 phr



Formulation 2 AK#2 5 phr

APPENDIX F2



Formulation 3 AK#2 8 phr

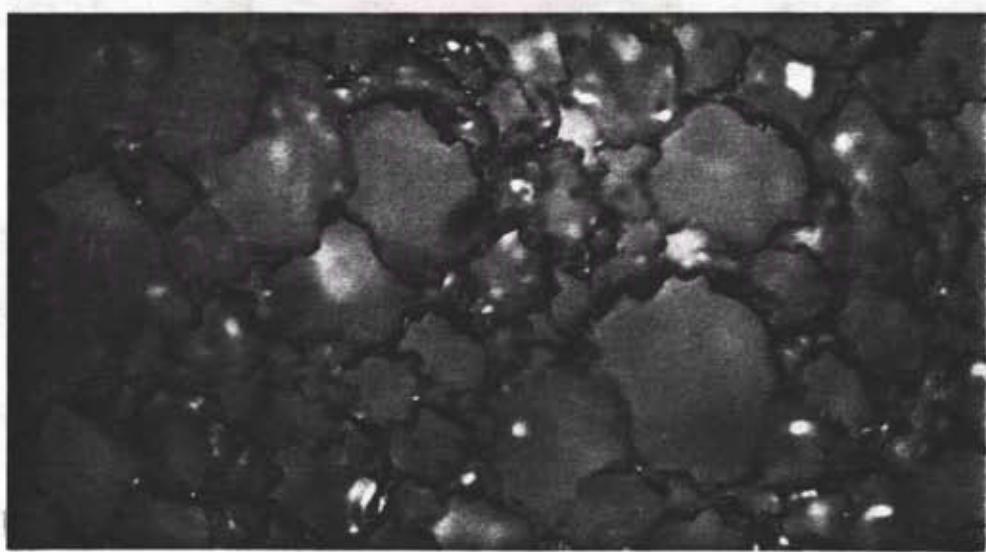
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## APPENDIX G

Formulation 2 :	Compounding stage 1	30	min
	Compounding stage 2	5	min
	Compounding stage 3	10	min
	Storage	1	hr



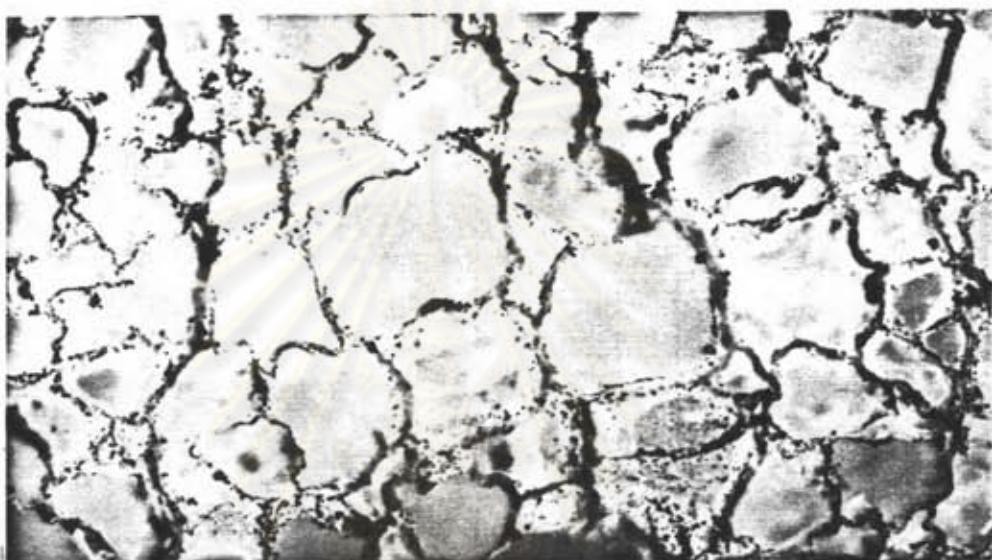
Cure 165°C      23 min



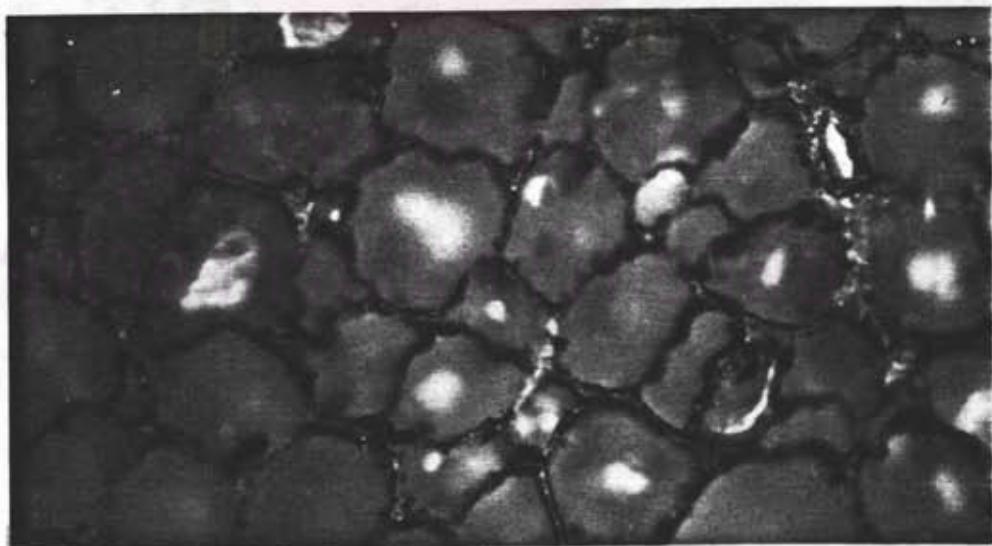
Cure 185°C      7 min

## APPENDIX H1

Formulation 2,6 :	Compounding stage 1	30	min
	Compounding stage 2	5	min
	Compounding stage 3	10	min
	Storage	1	hr
	Cure 165°C	18	min



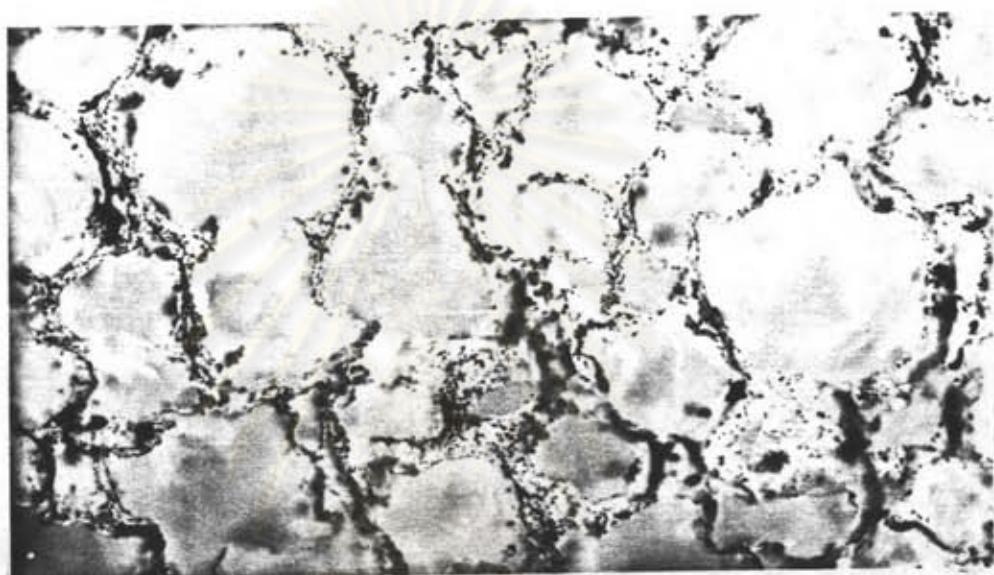
Formulation 2 ZnO 0 %



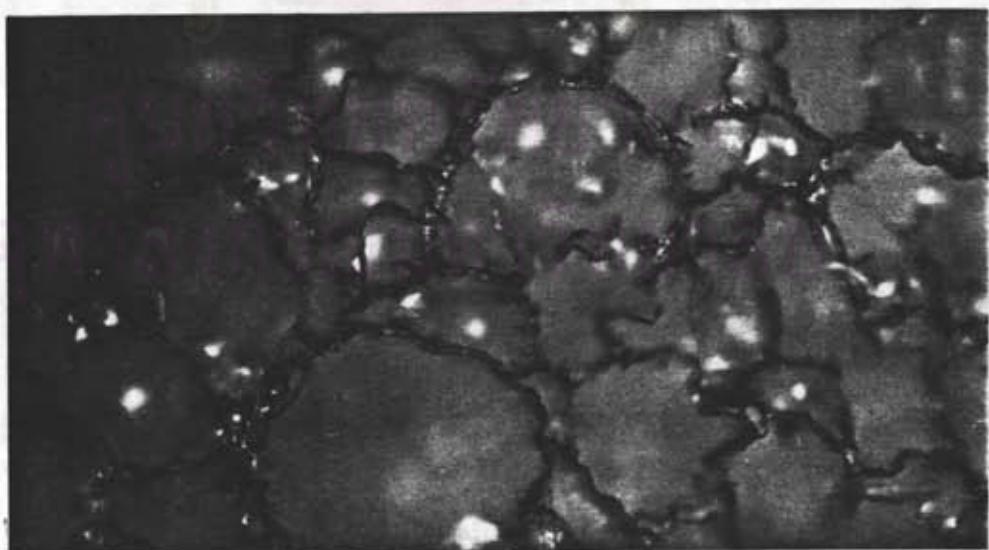
Formulation 6 ZnO 8 %

## APPENDIX H2

Formulation 2,6 :	Compounding stage 1	30	min
	Compounding stage 2	5	min
	Compounding stage 3	10	min
	Storage	1	hr
	Cure 165°C	23	min



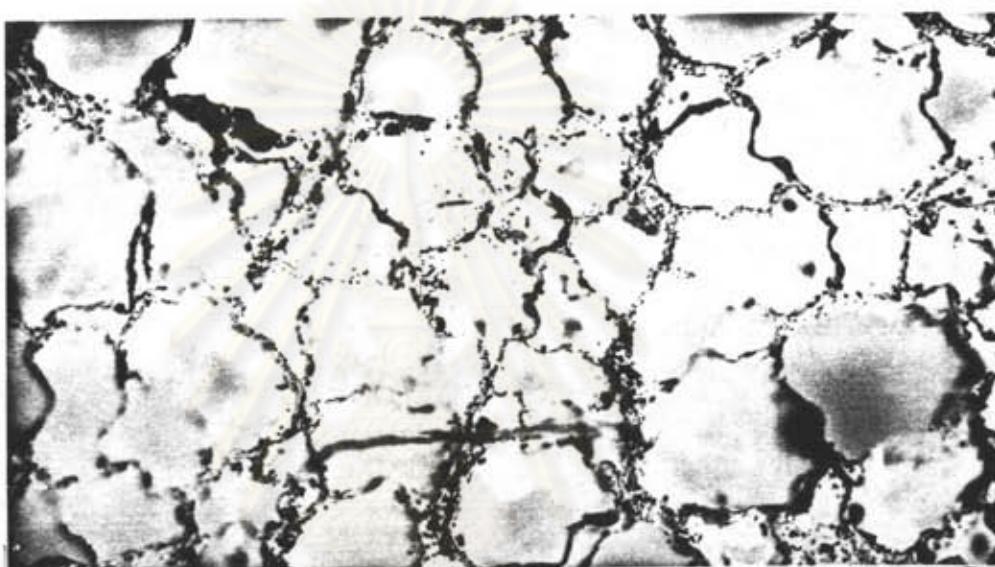
Formulation 2 ZnO 0 %



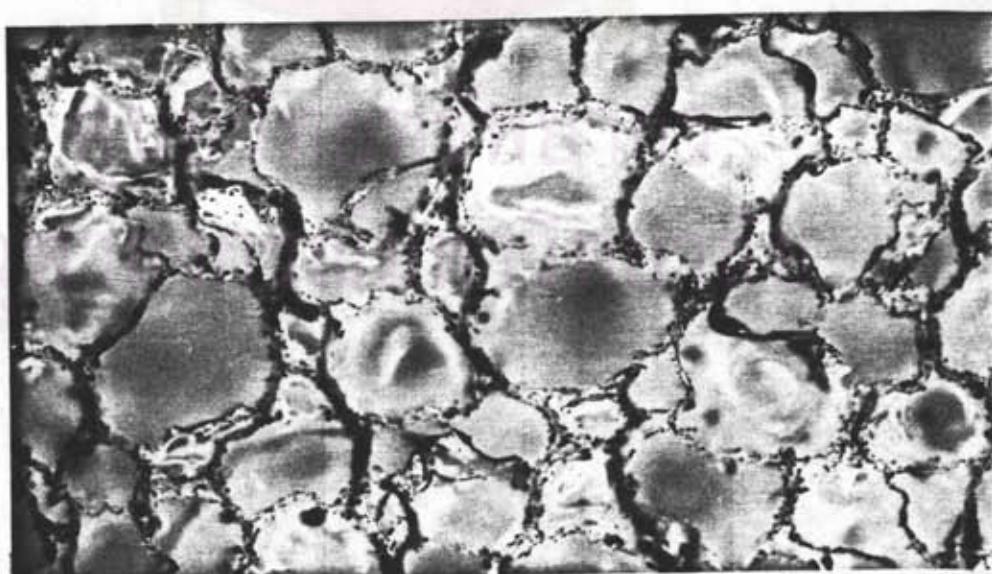
Formulation 6 ZnO 8 %

## APPENDIX I 1

Formulation 2 : Compounding stage 1      30      min  
                  Compounding stage 2      5      min  
                  Compounding stage 3      10     min  
                  Storage                    1      hr  
                  Cure temperature      165°C

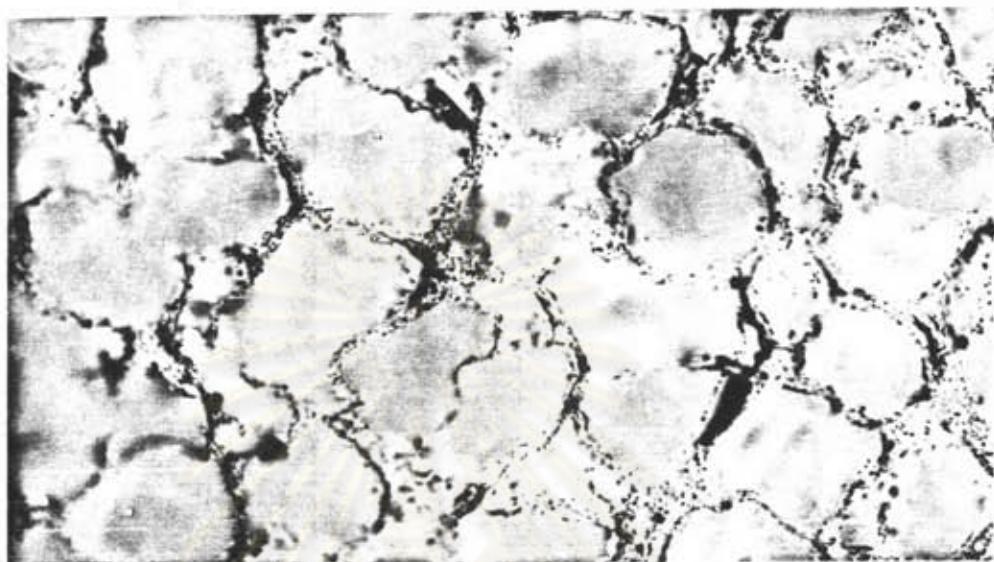


Cure time      13      min

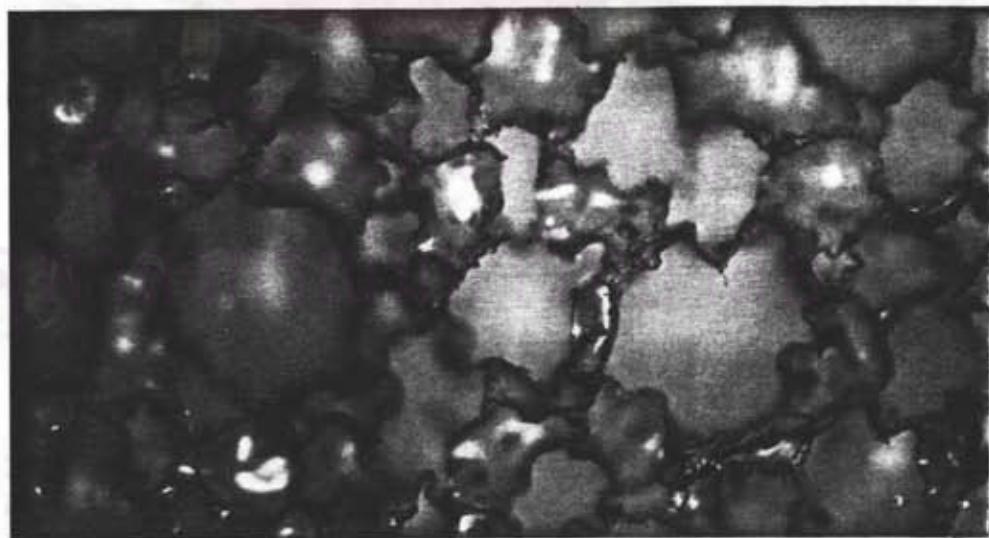


Cure time      18      min

APPENDIX I2



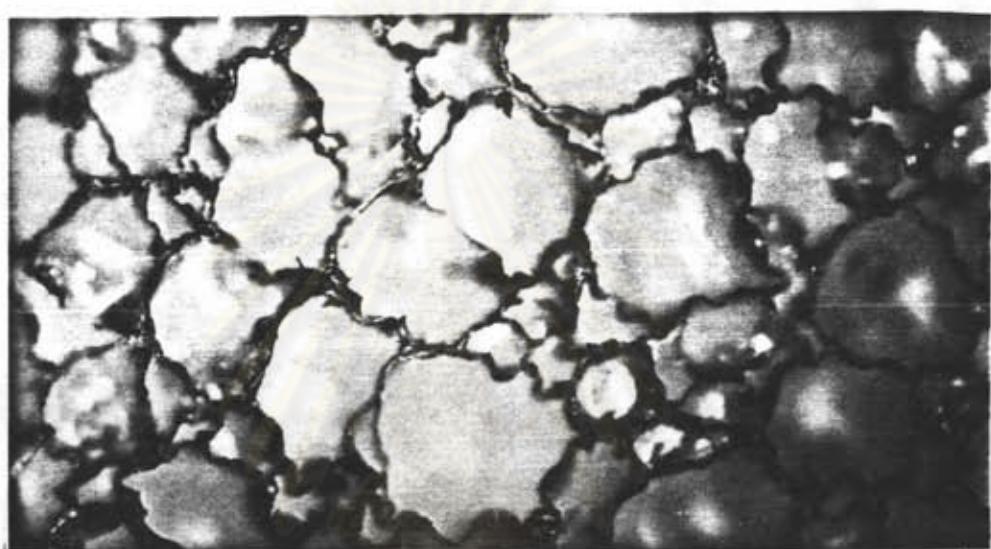
Cure time 23 min



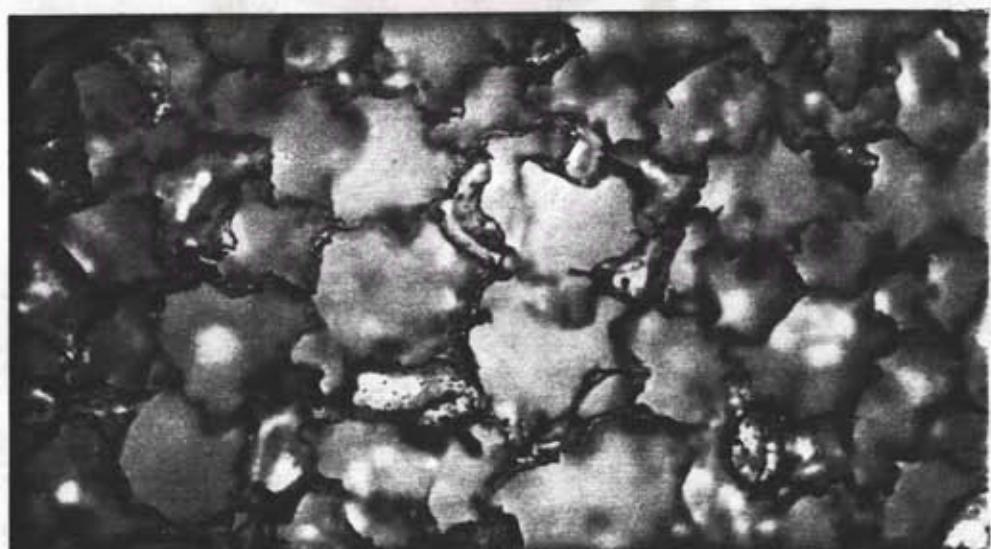
Cure time 28 min

## APPENDIX J

Formulation 8,11 :	Compounding stage 1	25	min
	Compounding stage 2	5	min
	Compounding stage 3	5	min
	Storage	1	hr
	Cure 165°C	18	min



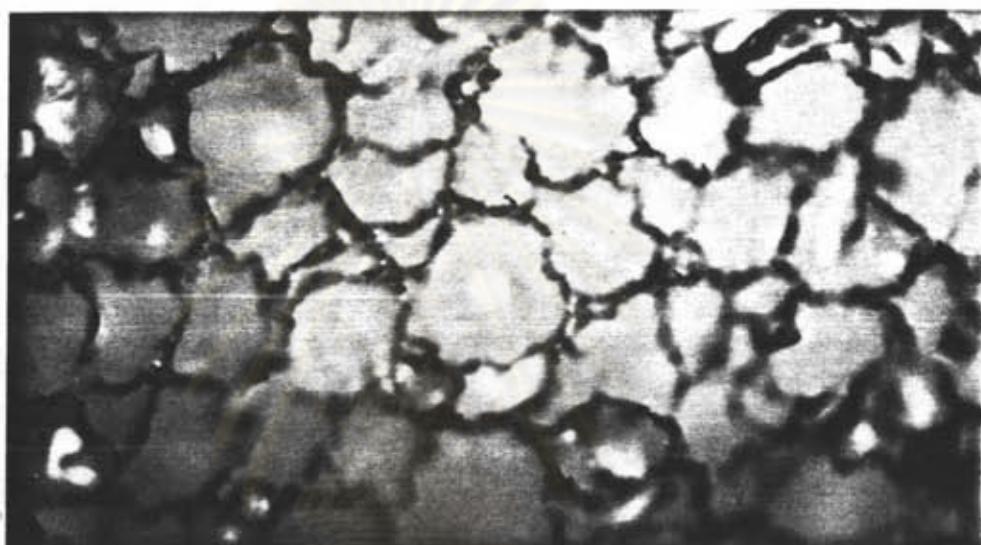
Formulation 8 IR 5 phr



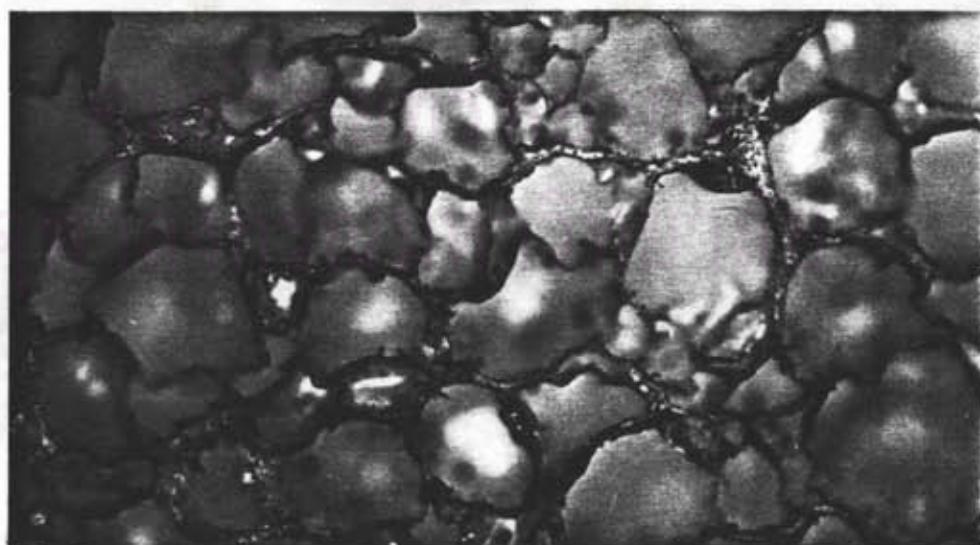
Formulation 11 RDS 5 phr

## APPENDIX K

Formulation 10,13 : Compounding stage 1	25	min
Compounding stage 2	5	min
Compounding stage 3	5	min
Storage	1	hr
Cure 165°C	18	min



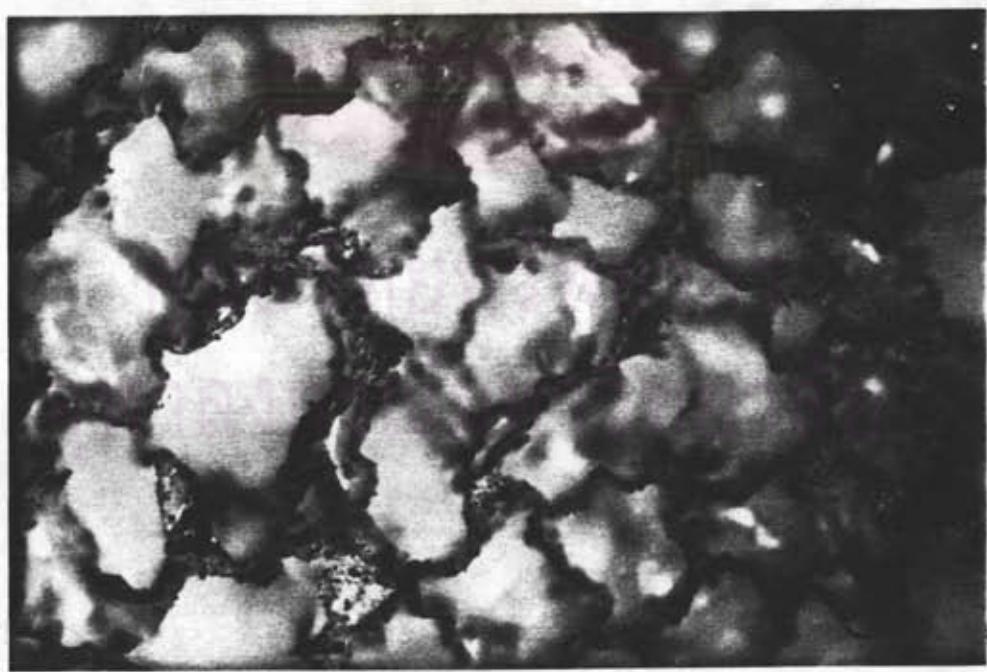
Formulation 10 IR 15 phr



Formulation 13 RDS 15 phr

## APPENDIX L

A sample of cell EVA foam in shoe industry



APPENDIX M

A sample of fine cell foam of EVA blend.



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



## VITA

Mr. Changthong Mahaphasukwat was born on October 11, 1960 in Bangkok, Thailand. He received his B.Eng. in Production from the Faculty of Engineering, King Mongkut Institute of Technology (NBK) in 1983. Since 1984, he has been a graduate student in the Department of Petro-Polymer (Interprogram), Chulalongkorn University.

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย