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APPENDICES

Appendix A Monomer conversion of PMMA sheets produced by various conditions

Table A1 Monomer conversion of PMMA sheets produced by using 0.038 wt% ADVN at various isothermal temperatures.

Time (hr)	% Monomer conversion at various casting temperatures			
	58°C	60°C	62°C	70°C
0.0	7.1	7.1	7.1	7.1
0.5	7.6	7.6	9.3	10.1
1.0	11.3	12.8	15.6	24.0
1.5	21.4	21.4	20.9	86.6
2.0	28.0	55.9	31.1	86.2
2.5	84.6	86.7	31.4	89.0
3.0	84.6	87.1	44.8	87.7
3.5	86.8	88.7	88.5	88.0
4.0	86.4	86.6	88.5	87.0

Table A2 Monomer conversion of PMMA sheets produced at 60°C by varying ADVN concentrations.

Time (hr)	% Monomer conversion at various initiator concentrations		
	0.019 wt%	0.038 wt%	0.076 wt%
0.0	6.1	7.1	5.7
0.5	6.5	7.6	6.4
1.0	8.2	12.8	15.3
1.5	15.4	21.4	36.8
2.0	17.9	55.9	64.5
2.5	39.4	86.7	88.5
3.0	67.8	87.1	87.8
3.5	88.3	88.7	88.6
4.0	86.3	86.6	88.8

Table A3 Monomer conversion of PMMA sheets produced by using 0.038 wt% ADVN with non-isothermal temperature profiles (Condition A is the temperature profile at 60°C for 2.5 hr and 120°C for 1.5 hr. Condition B is the temperature profile at 62°C for 2.5 hr and 120°C for 1.5 hr).

Time (hr)	% Monomer conversion at various initiator concentrations	
	Condition A*	Condition B*
0.00	7.1	7.08
0.50	7.6	7.64
1.00	12.8	12.84
1.25	19.6	19.64
1.50	21.4	21.45
1.75	26.4	26.39
2.00	32.7	63.38
2.50	87.4	85.60
3.00	98.3	98.66
4.00	96.2	96.98

Table A4 Monomer conversion of PMMA sheets produced by different process conditions (*Water bath is the PMMA sheet produced by using water bath at 60°C, Blank is the commercial PMMA sheet).

Time (hr)	% Monomer conversion by different processes	
	Water bath*	Blank
0.0	7.08	-
0.5	11.89	-
1.0	17.85	-
1.5	26.85	-
2.0	38.61	-
2.5	84.55	-
3.0	86.43	-
3.5	87.30	-
4.0	88.66	-
Final	-	97.13

Appendix B Mechanical properties of PMMA sheet produced by various conditions

Table B1 Mechanical properties of PMMA sheet produced by using 0.038 wt% ADVN at various isothermal casting temperatures.

Mechanical properties	Casting temperature			
	58°C	60°C	62°C	70°C
Impact resistance (J/m)	23.7	22.4	20.8	22.6
Hardness (shore D)	88	90	89	90

Table B2 Mechanical properties of PMMA sheet produced at 60°C by varying ADVN concentrations.

Mechanical properties	Initiator concentration (wt%)		
	0.019	0.038	0.076
Impact resistance (J/m)	24.2	22.8	24.4
Hardness (shore D)	88	89	90

Table B3 Mechanical properties of PMMA sheets produced by using 0.038 wt% ADVN with non-isothermal temperature profile (Condition A is the temperature profile at 60°C for 2.5 hr and 120°C for 1.5 hr. Condition B is the temperature profile at 62°C for 2.5 hr and 120°C for 1.5 hr).

Mechanical properties	Process condition	
	A	B
Impact resistance (J/m)	19.7	20.8
Hardness (shore D)	93	94

Table B4 Monomer conversion of PMMA sheets produced by different process conditions (*Water bath is the PMMA sheet produced by using water bath at 60°C, Blank is the commercial PMMA sheet).

Mechanical properties	Process condition	
	Water bath	Blank
Impact resistance (J/m)	24.8	21.7
Hardness (shore D)	90	95

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