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APPENDIX A

Table 1A: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 70°C for 2 hours.

Formulation	Sample Code No.	Immersion for 2 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1LM-70-02-11	22.0729	22.0421	0.0308	0.1395	0.1422	0.0061
	1LM-70-02-12	21.8215	21.7914	0.0301	0.1379		
	1LM-70-02-13	21.0483	21.0169	0.0314	0.1492		
2	2LM-70-02-11	21.0654	21.0387	0.0267	0.1267	0.1281	0.0020
	2LM-70-02-12	20.3212	20.2947	0.0265	0.1304		
	2LM-70-02-13	20.4526	20.4266	0.0260	0.1271		
3	3LM-70-02-11	21.0858	21.0518	0.0340	0.1612	0.1535	0.0131
	3LM-70-02-12	21.4975	21.4629	0.0346	0.1609		
	3LM-70-02-13	21.4538	21.4241	0.0297	0.1384		
4	4LM-70-02-11	20.6978	20.6622	0.0356	0.1720	0.1654	0.0058
	4LM-70-02-12	20.1959	20.1634	0.0325	0.1609		
	4LM-70-02-13	21.5454	21.5102	0.0352	0.1634		
5	5LM-70-02-11	22.3396	22.3038	0.0358	0.1603	0.1671	0.0062
	5LM-70-02-12	21.6868	21.6494	0.0374	0.1725		
	5LM-70-02-13	21.7083	21.6717	0.0366	0.1686		
6	6LM-70-02-11	23.7384	23.7225	0.0159	0.0670	0.0672	0.0005
	6LM-70-02-12	24.1120	24.0959	0.0161	0.0668		
	6LM-70-02-13	23.6281	23.6121	0.0160	0.0677		

Table 2A: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 70°C for 4 hours.

Formulation	Sample Code No.	Immersion for 4 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1LM-70-04-11	21.4716	21.4008	0.0708	0.3297			
	1LM-70-04-12	21.1580	21.0946	0.0634	0.2997			
	1LM-70-04-13	21.6707	21.6097	0.0610	0.2815	0.3036	0.0244	0.3063
	1LM-70-04-21	21.7649	21.6961	0.0688	0.3161			
	1LM-70-04-22	21.4320	21.3673	0.0647	0.3019			
	1LM-70-04-23	20.9404	20.8757	0.0647	0.3090	0.3090	0.0071	
2	2LM-70-04-11	20.7093	20.6461	0.0632	0.3052			
	2LM-70-04-12	20.1666	20.1041	0.0625	0.3099			
	2LM-70-04-13	20.4484	20.3859	0.0625	0.3056	0.3069	0.0026	0.3053
	2LM-70-04-21	19.9503	19.8892	0.0611	0.3063			
	2LM-70-04-22	20.4963	20.4340	0.0623	0.3040			
	2LM-70-04-23	21.1124	21.0489	0.0635	0.3008	0.3037	0.0028	
3	3LM-70-04-11	20.9363	20.8627	0.0736	0.3515			
	3LM-70-04-12	21.0192	20.9457	0.0735	0.3497			
	3LM-70-04-13	20.7530	20.6813	0.0717	0.3455	0.3489	0.0031	0.3450
	3LM-70-04-21	19.7207	19.6539	0.0668	0.3387			
	3LM-70-04-22	20.8515	20.7793	0.0722	0.3463			
	3LM-70-04-23	20.5472	20.4777	0:0695	0.3382	0.3411	0.0045	
4	4LM-70-04-11	21.1952	21.1148	0.0804	0.3793			
	4LM-70-04-12	22.0852	22.0044	0.0808	0.3659			
	4LM-70-04-13	21.7546	21.6732	0.0814	0.3742	0.3731	0.0068	0.3791
	4LM-70-04-21	19.7115	19.6358	0.0757	0.3840			
	4LM-70-04-22	20.2553	20.1770	0.0783	0.3866			
	4LM-70-04-23	20.4829	20.4041	0.0788	0.3847	0.3851	0.0013	
5	5LM-70-04-11	21.7198	21.6257	0.0941	0.4332			
	5LM-70-04-12	22.5701	22.4741	0.0960	0.4253			
	5LM-70-04-13	22.3239	22.2270	0.0969	0.4341	0.4309	0.0048	0.4457
	5LM-70-04-21	20.6387	20.5428	0.0959	0.4647			
	5LM-70-04-22	20.8849	20.7883	0.0966	0.4625			
	5LM-70-04-23	21.0184	20.9229	0.0955	0.4544	0.4605	0.0054	
6	6LM-70-04-11	24.3390	24.2967	0.0423	0.1738			
	6LM-70-04-12	24.0904	24.0484	0.0420	0.1743			
	6LM-70-04-13	22.5900	22.5494	0.0406	0.1797	0.1760	0.0033	0.1815
	6LM-70-04-21	22.5298	22.4873	0.0425	0.1886			
	6LM-70-04-22	22.1389	22.0973	0.0416	0.1879			
	6LM-70-04-23	21.6523	21.6123	0.0400	0.1847	0.1871	0.0021	

Table 3A: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 70°C for 24 hours.

Formulation	Sample Code No.	Immersion for 24 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1LM-70-24-11	22.4716	22.3411	0.1305	0.5807	0.5883	0.0075
	1LM-70-24-12	22.1580	22.0276	0.1304	0.5885		
	1LM-70-24-13	21.6707	21.5416	0.1291	0.5957		
2	2LM-70-24-11	20.7093	20.5891	0.1202	0.5804	0.5871	0.0071
	2LM-70-24-12	20.1666	20.0467	0.1199	0.5945		
	2LM-70-24-13	20.4484	20.3285	0.1199	0.5864		
3	3LM-70-24-11	20.9363	20.7957	0.1406	0.6716	0.6698	0.0032
	3LM-70-24-12	21.0192	20.8792	0.1400	0.6661		
	3LM-70-24-13	20.7530	20.6136	0.1394	0.6717		
4	4LM-70-24-11	21.1952	21.0443	0.1509	0.7120	0.6839	0.0387
	4LM-70-24-12	22.0852	21.9439	0.1413	0.6398		
	4LM-70-24-13	21.7546	21.6023	0.1523	0.7001		
5	5LM-70-24-11	21.7198	21.5541	0.1657	0.7629	0.7176	0.0397
	5LM-70-24-12	22.5701	22.4146	0.1555	0.6890		
	5LM-70-24-13	22.3239	22.1674	0.1565	0.7010		
6	6LM-70-24-11	24.3390	24.2568	0.0822	0.3377	0.3469	0.0133
	6LM-70-24-12	24.0904	24.0083	0.0821	0.3408		
	6LM-70-24-13	22.5900	22.5082	0.0818	0.3621		

Table 4A: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 70°C for 48 hours.

Formulation	Sample Code No.	Immersion for 48 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1LM-70-48-11	22.0729	21.8564	0.2165	0.9808	0.9952	0.0223	1.0407
	1LM-70-48-12	21.8215	21.6068	0.2147	0.9839			
	1LM-70-48-13	21.0483	20.8334	0.2149	1.0210			
	1LM-70-48-21	19.9468	19.7309	0.2159	1.0824	1.0861	0.0037	
	1LM-70-48-22	19.9500	19.7333	0.2167	1.0862			
	1LM-70-48-23	19.6755	19.4611	0.2144	1.0897			
2	2LM-70-48-11	21.0654	20.8647	0.2007	0.9527	0.9983	0.0619	1.0312
	2LM-70-48-12	20.3212	20.1234	0.1978	0.9734			
	2LM-70-48-13	20.4526	20.2340	0.2186	1.0688			
	2LM-70-48-21	20.4619	20.2509	0.2110	1.0312	1.0642	0.0302	
	2LM-70-48-22	20.0423	19.8277	0.2146	1.0707			
	2LM-70-48-23	19.6318	19.4177	0.2141	1.0906			
3	3LM-70-48-11	21.0858	20.8538	0.2320	1.1003	1.1304	0.0405	1.1782
	3LM-70-48-12	21.4975	21.2579	0.2396	1.1145			
	3LM-70-48-13	20.1959	19.9583	0.2376	1.1765			
	3LM-70-48-21	20.8150	20.5633	0.2517	1.2092	1.2260	0.0208	
	3LM-70-48-22	19.4581	19.2208	0.2373	1.2195			
	3LM-70-48-23	19.7877	19.5405	0.2472	1.2493			
4	4LM-70-48-11	20.6978	20.4416	0.2562	1.2378	1.2156	0.0193	1.2916
	4LM-70-48-12	21.4538	21.1951	0.2587	1.2058			
	4LM-70-48-13	21.5454	21.2862	0.2592	1.2030			
	4LM-70-48-21	20.7725	20.4908	0.2817	1.3561	1.3677	0.0183	
	4LM-70-48-22	19.4624	19.1921	0.2703	1.3888			
	4LM-70-48-23	20.4092	20.1320	0.2772	1.3582			
5	5LM-70-48-11	22.3396	22.0823	0.2573	1.1518	1.1634	0.0115	1.3464
	5LM-70-48-12	21.6868	21.4344	0.2524	1.1638			
	5LM-70-48-13	21.7083	21.4533	0.2550	1.1747			
	5LM-70-48-21	20.6395	20.3223	0.3172	1.5369	1.5293	0.0246	
	5LM-70-48-22	20.2357	19.9222	0.3135	1.5492			
	5LM-70-48-23	20.9475	20.6329	0.3146	1.5018			
6	6LM-70-48-11	23.7384	23.6092	0.1292	0.5443	0.5667	0.0433	0.5882
	6LM-70-48-12	24.1120	23.9820	0.1300	0.5392			
	6LM-70-48-13	23.6281	23.4824	0.1457	0.6166			
	6LM-70-48-21	21.8830	21.7511	0.1319	0.6028	0.6097	0.0522	
	6LM-70-48-22	23.1562	23.0262	0.1300	0.5614			
	6LM-70-48-23	21.4417	21.2991	0.1426	0.6651			

Table 5A: Average of %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 70°C.

Time (hr.)	Formulation 1	Formulation 2	Formulation 3	Formulation 4	Formulation 5	Formulation 6
	1LM-70	2LM-70	3LM-70	4LM-70	5LM-70	6LM-70
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.1422	0.1281	0.1535	0.1654	0.1671	0.0672
4	0.3063	0.3053	0.3450	0.3791	0.4457	0.1815
24	0.5883	0.5871	0.6698	0.6839	0.7176	0.3469
48	1.0407	1.0312	1.1782	1.2916	1.3464	0.5882

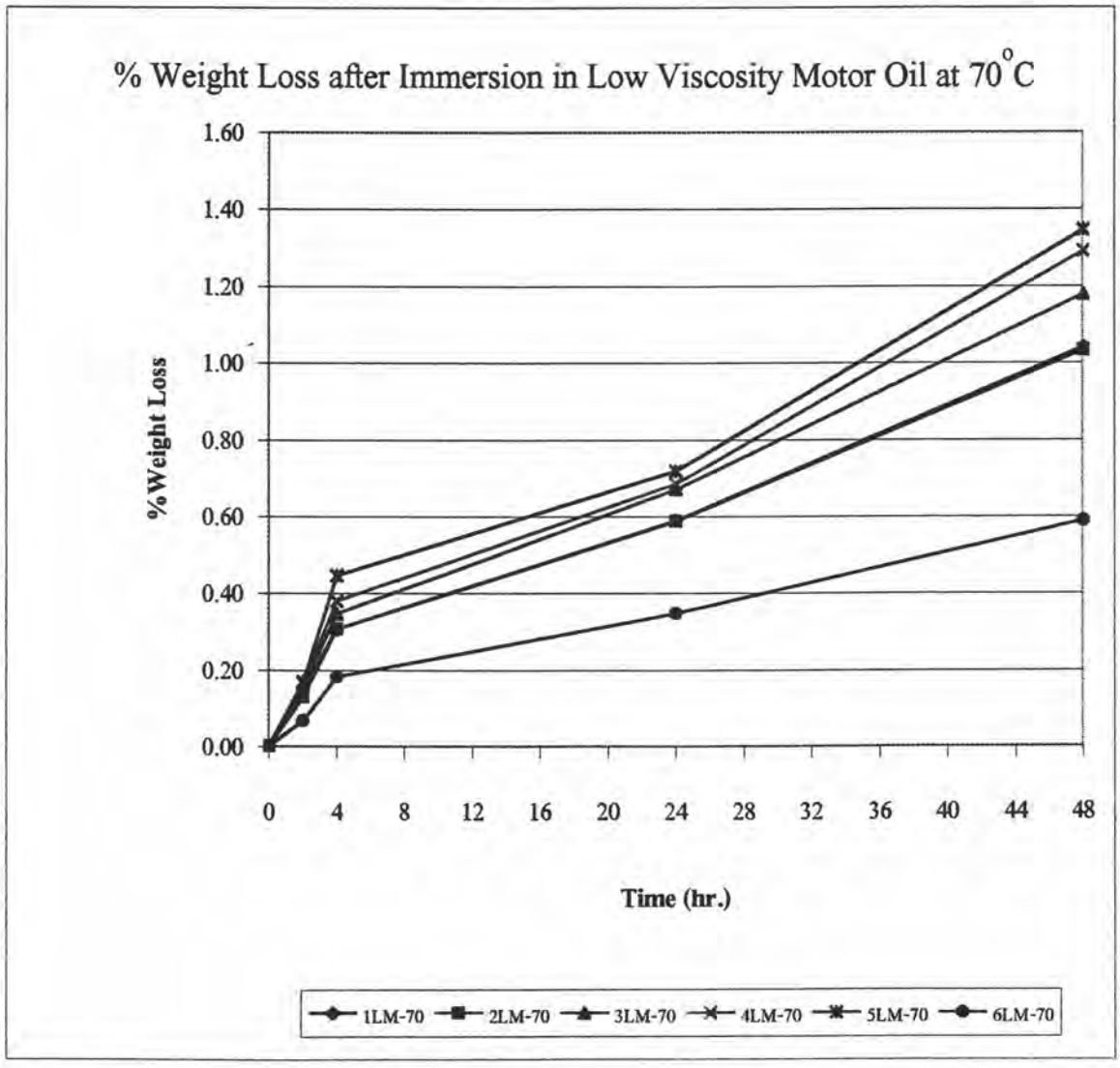


Table 6A: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Motor Oil at 70°C for 2 hours.

Formulation	Sample Code No.	Immersion for 2 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1HM-70-02-11	20.6734	20.6431	0.0303	0.1466	0.1507	0.0036
	1HM-70-02-12	20.8971	20.8653	0.0318	0.1522		
	1HM-70-02-13	20.6190	20.5874	0.0316	0.1533		
2	2HM-70-02-11	20.8937	20.8629	0.0308	0.1474	0.1505	0.0074
	2HM-70-02-12	19.6269	19.5957	0.0312	0.1590		
	2HM-70-02-13	19.2249	19.1970	0.0279	0.1451		
3	3HM-70-02-11	21.2003	21.1669	0.0334	0.1575	0.1587	0.0056
	3HM-70-02-12	21.6581	21.6248	0.0333	0.1538		
	3HM-70-02-13	21.7988	21.7629	0.0359	0.1647		
4	4HM-70-02-11	21.4857	21.4506	0.0351	0.1634	0.1610	0.0031
	4HM-70-02-12	21.8958	21.8603	0.0355	0.1621		
	4HM-70-02-13	22.3001	22.2650	0.0351	0.1574		
5	5HM-70-02-11	22.1042	22.0679	0.0363	0.1642	0.1663	0.0065
	5HM-70-02-12	22.1661	22.1304	0.0357	0.1611		
	5HM-70-02-13	20.6847	20.6488	0.0359	0.1736		
6	6HM-70-02-11	22.8749	22.8612	0.0137	0.0599	0.0673	0.0073
	6HM-70-02-12	24.2452	24.2288	0.0164	0.0676		
	6HM-70-02-13	22.5631	22.5463	0.0168	0.0745		

Table 7A: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Motor Oil at 70 ^{0}C for 4 hours.

Formulation	Sample Code No.	Immersion for 4 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1HM-70-04-11	22.0347	21.9647	0.0700	0.3177			
	1HM-70-04-12	21.2020	21.1369	0.0651	0.3070			
	1HM-70-04-13	21.3973	21.3307	0.0666	0.3113	0.3120	0.0054	0.3250
	1HM-70-04-21	19.0318	18.9689	0.0629	0.3305			
	1HM-70-04-22	20.0429	19.9722	0.0707	0.3527			
	1HM-70-04-23	20.1586	20.0919	0.0667	0.3309	0.3380	0.0127	
2	2HM-70-04-11	19.1429	19.0829	0.0600	0.3134			
	2HM-70-04-12	20.7011	20.6401	0.0610	0.2947			
	2HM-70-04-13	19.8169	19.7554	0.0615	0.3103	0.3061	0.0101	0.3209
	2HM-70-04-21	20.8045	20.7358	0.0687	0.3302			
	2HM-70-04-22	20.1493	20.0819	0.0674	0.3345			
	2HM-70-04-23	20.5871	20.5167	0.0704	0.3420	0.3356	0.0059	
3	3HM-70-04-11	22.2144	22.1375	0.0769	0.3462			
	3HM-70-04-12	20.7110	20.6373	0.0737	0.3558			
	3HM-70-04-13	21.2283	21.1540	0.0743	0.3500	0.3507	0.0049	0.3755
	3HM-70-04-21	19.3384	19.2609	0.0775	0.4008			
	3HM-70-04-22	18.3095	18.2348	0.0747	0.4080			
	3HM-70-04-23	20.3658	20.2859	0.0799	0.3923	0.4004	0.0078	
4	4HM-70-04-11	21.3572	21.2788	0.0784	0.3671			
	4HM-70-04-12	21.4843	21.4033	0.0810	0.3770			
	4HM-70-04-13	20.7394	20.6591	0.0803	0.3872	0.3771	0.0100	0.4125
	4HM-70-04-21	21.3972	21.3046	0.0926	0.4328			
	4HM-70-04-22	19.8944	19.8078	0.0866	0.4353			
	4HM-70-04-23	19.6303	19.5369	0.0934	0.4758	0.4480	0.0241	
5	5HM-70-04-11	21.0156	20.9365	0.0791	0.3764			
	5HM-70-04-12	21.9453	21.8650	0.0803	0.3659			
	5HM-70-04-13	20.6157	20.5360	0.0797	0.3866	0.3763	0.0103	0.4193
	5HM-70-04-21	20.5405	20.4478	0.0927	0.4513			
	5HM-70-04-22	19.7045	19.6083	0.0962	0.4882			
	5HM-70-04-23	20.7367	20.6439	0.0928	0.4475	0.4623	0.0225	
6	6HM-70-04-11	22.7700	22.7426	0.0274	0.1203			
	6HM-70-04-12	22.9970	22.9713	0.0257	0.1118			
	6HM-70-04-13	22.1992	22.1716	0.0276	0.1243	0.1188	0.0064	0.1409
	6HM-70-04-21	21.7340	21.6971	0.0369	0.1698			
	6HM-70-04-22	21.2941	21.2603	0.0338	0.1587			
	6HM-70-04-23	22.7135	22.6771	0.0364	0.1603	0.1629	0.0060	

Table 8A: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Motor Oil at 70°C for 24 hours.

Formulation	Sample Code No.	Immersion for 24 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1HM-70-24-11	22.0447	21.8924	0.1523	0.6909	0.6768	0.0124
	1HM-70-24-12	21.2020	21.0595	0.1425	0.6721		
	1HM-70-24-13	21.4073	21.2644	0.1429	0.6675		
2	2HM-70-24-11	19.1429	19.0091	0.1338	0.6990	0.6750	0.0207
	2HM-70-24-12	20.7011	20.5640	0.1371	0.6623		
	2HM-70-24-13	20.8169	20.6787	0.1382	0.6639		
3	3HM-70-24-11	21.2144	21.0697	0.1447	0.6821	0.6818	0.0015
	3HM-70-24-12	20.7110	20.5695	0.1415	0.6832		
	3HM-70-24-13	21.2283	21.0839	0.1444	0.6802		
4	4HM-70-24-11	21.3572	21.2068	0.1504	0.7042	0.7114	0.0176
	4HM-70-24-12	21.4843	21.3342	0.1501	0.6986		
	4HM-70-24-13	20.7394	20.5877	0.1517	0.7315		
5	5HM-70-24-11	21.0126	20.8588	0.1538	0.7319	0.7271	0.0210
	5HM-70-24-12	21.9423	21.7878	0.1545	0.7041		
	5HM-70-24-13	20.6127	20.4591	0.1536	0.7452		
6	6HM-70-24-11	22.7700	22.6881	0.0819	0.3597	0.3532	0.0107
	6HM-70-24-12	22.9970	22.9186	0.0784	0.3409		
	6HM-70-24-13	22.1992	22.1195	0.0797	0.3590		

Table 9A: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Motor Oil at 70°C for 48 hours.

Formulation	Sample Code No.	Immersion for 48 hr. Before	After	ΔW	%Loss	avg.	SD.	AVG.
1	1HM-70-48-11	20.6734	20.4545	0.2189	1.0588			
	1HM-70-48-12	21.8971	21.6805	0.2166	0.9892			
	1HM-70-48-13	22.6190	22.4004	0.2186	0.9664	1.0048	0.0481	1.0884
	1HM-70-48-21	19.6504	19.4188	0.2316	1.1786			
	1HM-70-48-22	19.6854	19.4556	0.2298	1.1674			
	1HM-70-48-23	20.7741	20.5310	0.2431	1.1702	1.1721	0.0058	
2	2HM-70-48-11	20.8937	20.6905	0.2032	0.9725			
	2HM-70-48-12	18.6269	18.4305	0.1964	1.0544			
	2HM-70-48-13	19.2249	19.0289	0.1960	1.0195	1.0155	0.0411	1.1007
	2HM-70-48-21	20.7238	20.4732	0.2506	1.2092			
	2HM-70-48-22	20.1667	19.9318	0.2349	1.1648			
	2HM-70-48-23	21.0435	20.7944	0.2491	1.1837	1.1859	0.0223	
3	3HM-70-48-11	21.2003	20.9728	0.2275	1.0731			
	3HM-70-48-12	21.6581	21.4275	0.2306	1.0647			
	3HM-70-48-13	21.7988	21.5660	0.2328	1.0679	1.0686	0.0042	1.1825
	3HM-70-48-21	19.6652	19.4103	0.2549	1.2962			
	3HM-70-48-22	20.1275	19.8676	0.2599	1.2913			
	3HM-70-48-23	20.3411	20.0763	0.2648	1.3018	1.2964	0.0053	
4	4HM-70-48-11	21.4857	21.2356	0.2501	1.1642			
	4HM-70-48-12	21.8958	21.6454	0.2504	1.1436			
	4HM-70-48-13	22.3001	22.0490	0.2511	1.1260	1.1446	0.0191	1.3077
	4HM-70-48-21	19.4670	19.1911	0.2759	1.4173			
	4HM-70-48-22	20.2869	19.9901	0.2968	1.4630			
	4HM-70-48-23	20.2462	19.9360	0.3102	1.5321	1.4708	0.0578	
5	5HM-70-48-11	22.1442	21.8865	0.2577	1.1637			
	5HM-70-48-12	22.2061	21.9528	0.2533	1.1407			
	5HM-70-48-13	20.7447	20.4715	0.2732	1.3170	1.2071	0.0958	1.3319
	5HM-70-48-21	20.7887	20.4876	0.3011	1.4484			
	5HM-70-48-22	20.2943	19.9982	0.2961	1.4590			
	5HM-70-48-23	19.7679	19.4788	0.2891	1.4625	1.4566	0.0073	
6	6HM-70-48-11	22.8749	22.7634	0.1115	0.4874			
	6HM-70-48-12	24.2452	24.1336	0.1116	0.4603			
	6HM-70-48-13	22.5631	22.4533	0.1098	0.4866	0.4781	0.0154	0.5245
	6HM-70-48-21	23.3297	23.1995	0.1302	0.5581			
	6HM-70-48-22	21.3089	21.1883	0.1206	0.5660			
	6HM-70-48-23	22.5345	22.4018	0.1327	0.5889	0.5710	0.0160	

Table 10A: Average of %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Motor Oil at 70°C.

Time (hr.)	Formulation 1 1HM-70	Formulation 2 2HM-70	Formulation 3 3HM-70	Formulation 4 4HM-70	Formulation 5 5HM-70	Formulation 6 6HM-70
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.1507	0.1505	0.1587	0.1610	0.1663	0.0673
4	0.3250	0.3209	0.3755	0.4125	0.4193	0.1409
24	0.6768	0.6750	0.6818	0.7114	0.7271	0.3532
48	1.0884	1.1007	1.1825	1.3077	1.3319	0.5245

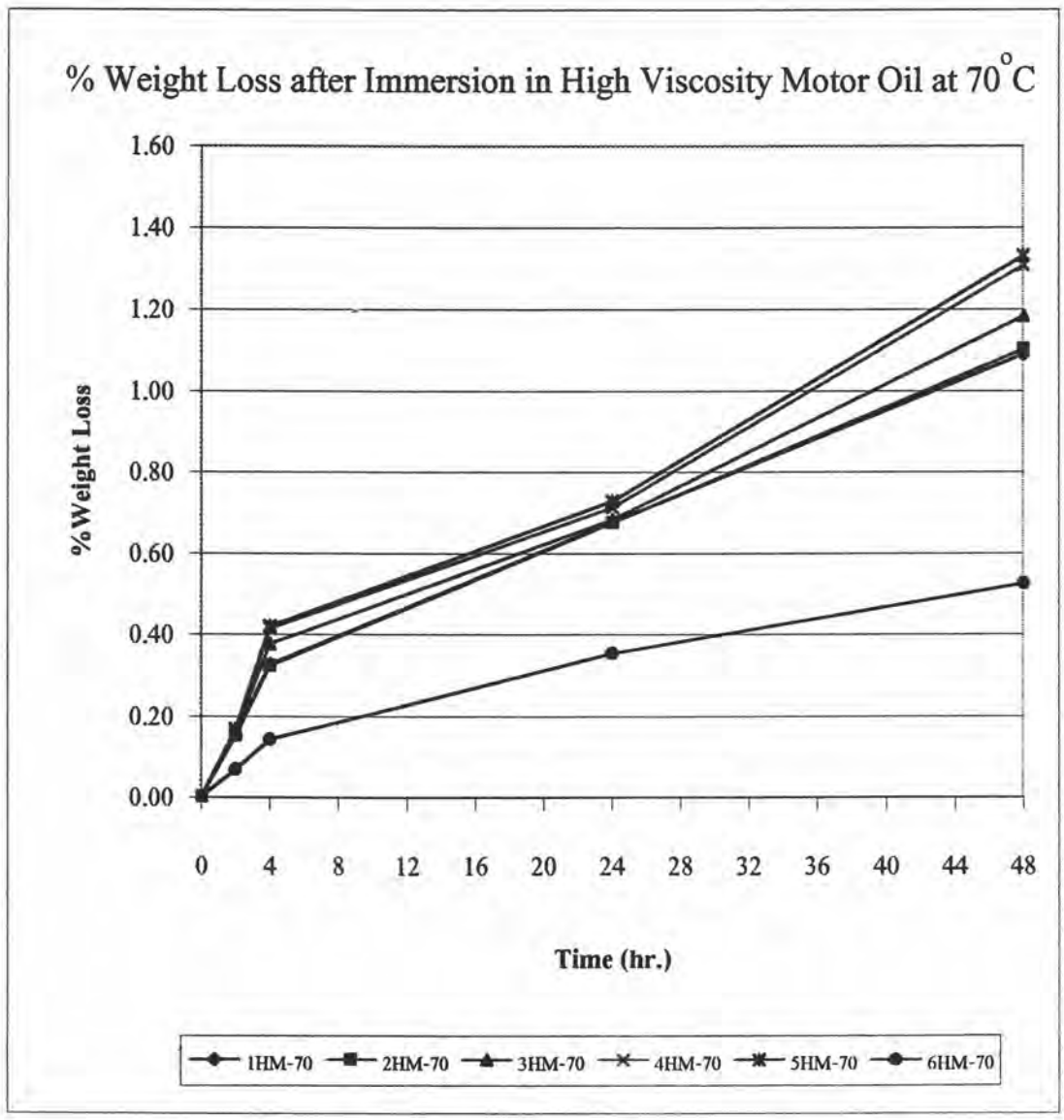


Table 11A: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 70°C for 2 hours.

Formulation	Sample Code No.	Immersion for 2 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1LS-70-02-11	21.0331	21.0024	0.0307	0.1460	0.1841	0.0610
	1LS-70-02-12	20.4726	20.4415	0.0311	0.1519		
	1LS-70-02-13	20.2035	20.1521	0.0514	0.2544		
2	2LS-70-02-11	19.4117	19.3821	0.0296	0.1525	0.1826	0.0569
	2LS-70-02-12	19.4311	19.4025	0.0286	0.1472		
	2LS-70-02-13	20.0635	20.0137	0.0498	0.2482		
3	3LS-70-02-11	19.8040	19.7719	0.0321	0.1621	0.1974	0.0703
	3LS-70-02-12	19.9705	19.9402	0.0303	0.1517		
	3LS-70-02-13	19.3644	19.3105	0.0539	0.2783		
4	4LS-70-02-11	19.4395	19.4114	0.0281	0.1446	0.1860	0.0673
	4LS-70-02-12	22.1634	22.1302	0.0332	0.1498		
	4LS-70-02-13	22.3073	22.2485	0.0588	0.2636		
5	5LS-70-02-11	19.7453	19.7080	0.0373	0.1889	0.2238	0.0617
	5LS-70-02-12	20.2140	20.1761	0.0379	0.1875		
	5LS-70-02-13	19.9294	19.8706	0.0588	0.2950		
6	6LS-70-02-11	23.2790	23.2661	0.0129	0.0554	0.0728	0.0278
	6LS-70-02-12	23.9370	23.9231	0.0139	0.0581		
	6LS-70-02-13	24.1194	24.0941	0.0253	0.1049		

Table 12A: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 70°C for 4 hours.

Formulation	Sample Code No.	Immersion for 4 hr. Before	After	ΔW	%Loss	avg.	SD.	AVG.
1	1LS-70-04-11	21.0231	20.9476	0.0755	0.3591			
	1LS-70-04-12	20.1935	20.1142	0.0793	0.3927			
	1LS-70-04-13	19.0704	18.9847	0.0857	0.4494	0.4004	0.0456	0.3930
	1LS-70-04-21	19.5659	19.4909	0.0750	0.3833			
	1LS-70-04-22	19.6986	19.6219	0.0767	0.3894			
	1LS-70-04-23	19.7240	19.6483	0.0757	0.3838	0.3855	0.0034	
2	2LS-70-04-11	19.4117	19.3369	0.0748	0.3853			
	2LS-70-04-12	20.0635	19.9849	0.0786	0.3918			
	2LS-70-04-13	19.8779	19.7929	0.0850	0.4276	0.4016	0.0228	0.3858
	2LS-70-04-21	20.2186	20.1421	0.0765	0.3784			
	2LS-70-04-22	19.5063	19.4353	0.0710	0.3640			
	2LS-70-04-23	20.6957	20.6196	0.0761	0.3677	0.3700	0.0075	
3	3LS-70-04-11	19.8040	19.7218	0.0822	0.4151			
	3LS-70-04-12	19.3644	19.2767	0.0877	0.4529			
	3LS-70-04-13	18.3829	18.3011	0.0818	0.4450	0.4376	0.0200	0.4224
	3LS-70-04-21	20.6089	20.5231	0.0858	0.4163			
	3LS-70-04-22	20.6729	20.5880	0.0849	0.4105			
	3LS-70-04-23	21.2703	21.1864	0.0839	0.3944	0.4071	0.0113	
4	4LS-70-04-11	19.4395	19.3376	0.1019	0.5242			
	4LS-70-04-12	22.3073	22.2046	0.1027	0.4604			
	4LS-70-04-13	20.7511	20.6486	0.1025	0.4939	0.4928	0.0319	0.4739
	4LS-70-04-21	20.4426	20.3495	0.0931	0.4554			
	4LS-70-04-22	21.0912	20.9953	0.0959	0.4547			
	4LS-70-04-23	21.2131	21.1166	0.0965	0.4549	0.4550	0.0004	
5	5LS-70-04-11	19.7653	19.6605	0.1048	0.5302			
	5LS-70-04-12	19.9494	19.8419	0.1075	0.5389			
	5LS-70-04-13	20.6100	20.5003	0.1097	0.5323	0.5338	0.0045	0.5059
	5LS-70-04-21	20.0373	19.9410	0.0963	0.4806			
	5LS-70-04-22	20.3501	20.2537	0.0964	0.4737			
	5LS-70-04-23	20.6660	20.5668	0.0992	0.4800	0.4781	0.0038	
6	6LS-70-04-11	23.2793	23.2386	0.0407	0.1748			
	6LS-70-04-12	24.1194	24.0755	0.0439	0.1820			
	6LS-70-04-13	22.0591	22.0175	0.0416	0.1886	0.1818	0.0069	0.1887
	6LS-70-04-21	21.5300	21.4883	0.0417	0.1937			
	6LS-70-04-22	21.8373	21.7951	0.0422	0.1932			
	6LS-70-04-23	21.2620	21.2195	0.0425	0.1999	0.1956	0.0037	

Table 13A: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 70°C for 24 hours.

Formulation	Sample Code No.	Immersion for 24 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1LS-70-24-11	19.1704	19.0097	0.1607	0.8383	0.8453	0.0175
	1LS-70-24-12	19.2561	19.0895	0.1666	0.8652		
	1LS-70-24-13	20.3850	20.2153	0.1697	0.8325		
2	2LS-70-24-11	19.8779	19.7050	0.1729	0.8698	0.7816	0.0771
	2LS-70-24-12	19.1308	18.9877	0.1431	0.7480		
	2LS-70-24-13	19.5732	19.4309	0.1423	0.7270		
3	3LS-70-24-11	18.3829	18.2230	0.1599	0.8698	0.8797	0.0113
	3LS-70-24-12	19.2144	19.0430	0.1714	0.8920		
	3LS-70-24-13	19.7569	19.5836	0.1733	0.8772		
4	4LS-70-24-11	20.7511	20.5959	0.1552	0.7479	0.8264	0.0684
	4LS-70-24-12	20.5999	20.4201	0.1798	0.8728		
	4LS-70-24-13	20.0673	19.8950	0.1723	0.8586		
5	5LS-70-24-11	20.5900	20.4054	0.1846	0.8966	0.9334	0.0320
	5LS-70-24-12	20.1983	20.0066	0.1917	0.9491		
	5LS-70-24-13	20.1901	19.9974	0.1927	0.9544		
6	6LS-70-24-11	22.0591	21.9576	0.1015	0.4601	0.4920	0.0358
	6LS-70-24-12	24.4892	24.3704	0.1188	0.4851		
	6LS-70-24-13	22.3665	22.2478	0.1187	0.5307		

Table 14A: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 70°C for 48 hours.

Formulation	Sample Code No.	Immersion for 48 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1LS-70-48-11	20.7687	20.5531	0.2156	1.0381			
	1LS-70-48-12	19.9053	19.6254	0.2799	1.4062			
	1LS-70-48-13	20.3850	20.1151	0.2699	1.3240	1.2561	0.1932	1.1377
	1LS-70-48-21	20.7707	20.5615	0.2092	1.0072			
	1LS-70-48-22	20.5792	20.3667	0.2125	1.0326			
	1LS-70-48-23	21.3172	21.1001	0.2171	1.0184	1.0194	0.0127	
2	2LS-70-48-11	19.4311	19.2015	0.2296	1.1816			
	2LS-70-48-12	19.1308	18.9058	0.2250	1.1761			
	2LS-70-48-13	19.5732	19.3492	0.2240	1.1444	1.1674	0.0201	1.1632
	2LS-70-48-21	20.2776	20.0403	0.2373	1.1703			
	2LS-70-48-22	20.5606	20.3201	0.2405	1.1697			
	2LS-70-48-23	21.5986	21.3530	0.2456	1.1371	1.1590	0.0190	
3	3LS-70-48-11	19.9705	19.7308	0.2397	1.2003			
	3LS-70-48-12	19.2144	18.9759	0.2385	1.2413			
	3LS-70-48-13	19.7569	19.5179	0.2390	1.2097	1.2171	0.0215	1.2524
	3LS-70-48-21	17.3568	17.1064	0.2504	1.4427			
	3LS-70-48-22	20.9554	20.6911	0.2643	1.2613			
	3LS-70-48-23	21.4028	21.1547	0.2481	1.1592	1.2877	0.1436	
4	4LS-70-48-11	22.1634	21.9203	0.2431	1.0969			
	4LS-70-48-12	20.5999	20.3276	0.2723	1.3219			
	4LS-70-48-13	20.0673	19.8056	0.2617	1.3039	1.2409	0.1250	1.3129
	4LS-70-48-21	21.6789	21.3857	0.2932	1.3525			
	4LS-70-48-22	20.2593	19.9716	0.2877	1.4201			
	4LS-70-48-23	21.0795	20.7881	0.2914	1.3824	1.3850	0.0339	
5	5LS-70-48-11	20.2640	19.9773	0.2867	1.4148			
	5LS-70-48-12	20.2483	19.9596	0.2887	1.4258			
	5LS-70-48-13	20.1901	19.9508	0.2393	1.1852	1.3420	0.1358	1.4341
	5LS-70-48-21	20.5806	20.2619	0.3187	1.5485			
	5LS-70-48-22	21.2242	20.9013	0.3229	1.5214			
	5LS-70-48-23	21.7083	21.3808	0.3275	1.5086	1.5262	0.0204	
6	6LS-70-48-11	23.9371	23.7891	0.1480	0.6183			
	6LS-70-48-12	24.4892	24.3408	0.1484	0.6060			
	6LS-70-48-13	22.3665	22.2196	0.1469	0.6568	0.6270	0.0265	0.6408
	6LS-70-48-21	21.8804	21.7329	0.1475	0.6741			
	6LS-70-48-22	22.6491	22.5035	0.1456	0.6429			
	6LS-70-48-23	22.2809	22.1368	0.1441	0.6467	0.6546	0.0170	

Table 15A: Average of %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 70°C.

Time (hr.)	Formulation 1 1LS-70	Formulation 2 2LS-70	Formulation 3 3LS-70	Formulation 4 4LS-70	Formulation 5 5LS-70	Formulation 6 6LS-70
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.1841	0.1826	0.1974	0.1860	0.2238	0.0728
4	0.3930	0.3858	0.4224	0.4739	0.5059	0.1887
24	0.8453	0.7816	0.8797	0.8264	0.9334	0.4920
48	1.1377	1.1632	1.2525	1.3129	1.4341	0.6408

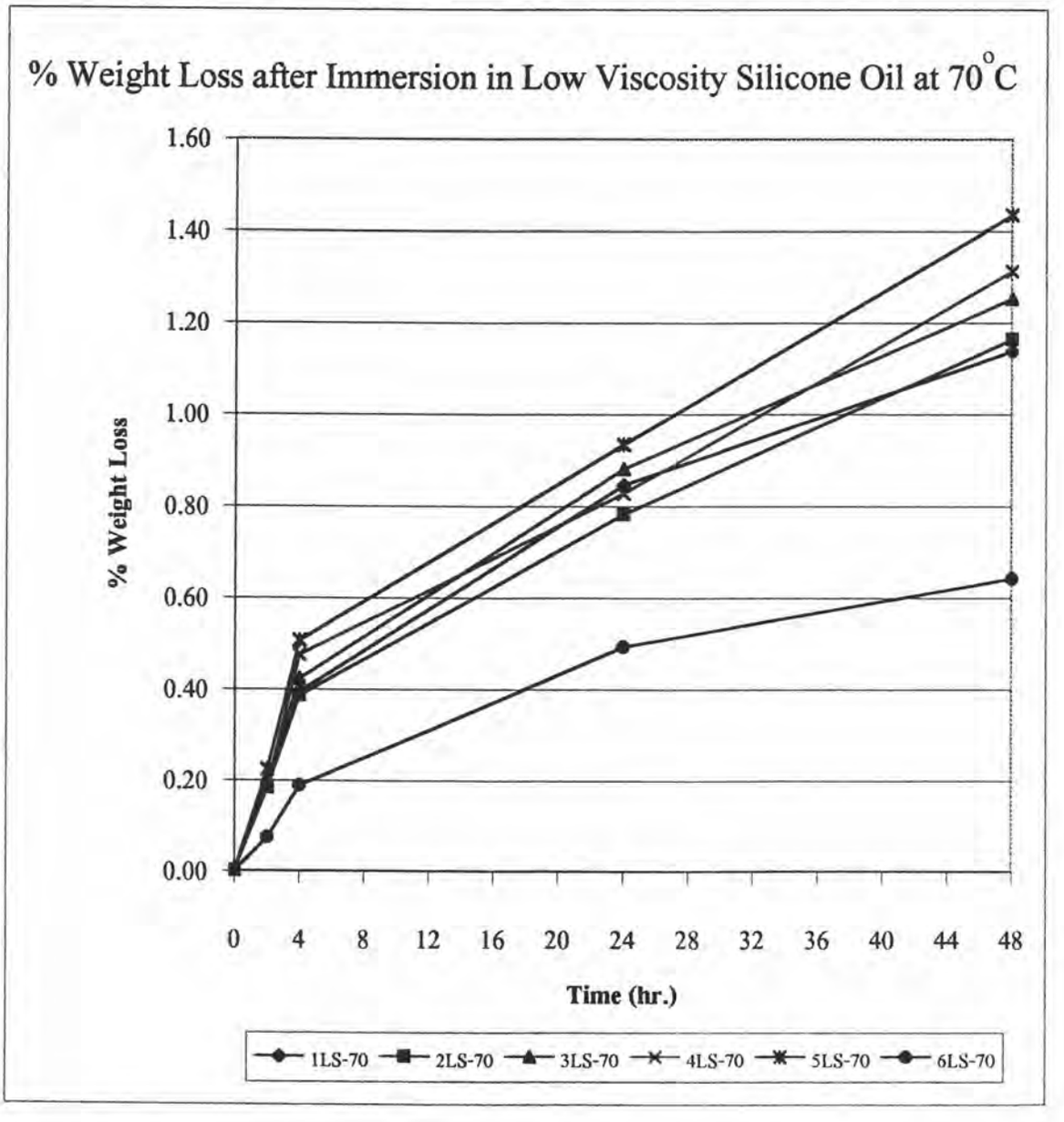


Table 16A: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 70°C for 2 hours.

Formulation	Sample Code No.	Immersion for 2 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1HS-70-02-11	19.0505	19.0210	0.0295	0.1549	0.1534	0.0127
	1HS-70-02-12	20.6424	20.6135	0.0289	0.1400		
	1HS-70-02-13	19.1204	19.0888	0.0316	0.1653		
2	2HS-70-02-11	20.0512	20.0274	0.0238	0.1187	0.1113	0.0067
	2HS-70-02-12	20.6083	20.5865	0.0218	0.1058		
	2HS-70-02-13	19.7545	19.7329	0.0216	0.1093		
3	3HS-70-02-11	19.5259	19.4947	0.0312	0.1598	0.1655	0.0138
	3HS-70-02-12	19.7410	19.7103	0.0307	0.1555		
	3HS-70-02-13	19.0860	19.0514	0.0346	0.1813		
4	4HS-70-02-11	20.1791	20.1469	0.0322	0.1596	0.1714	0.0105
	4HS-70-02-12	18.9806	18.9474	0.0332	0.1749		
	4HS-70-02-13	19.1366	19.1022	0.0344	0.1798		
5	5HS-70-02-11	20.1960	20.1567	0.0393	0.1946	0.1735	0.0200
	5HS-70-02-12	20.2845	20.2531	0.0314	0.1548		
	5HS-70-02-13	20.1135	20.0791	0.0344	0.1710		
6	6HS-70-02-11	22.5073	22.4945	0.0128	0.0569	0.0585	0.0107
	6HS-70-02-12	22.5952	22.5842	0.0110	0.0487		
	6HS-70-02-13	22.4669	22.4512	0.0157	0.0699		

Table 17A: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 70°C for 4 hours.

Formulation	Sample Code No.	Immersion for 4 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1HS-70-04-11	19.0505	18.9900	0.0605	0.3176			
	1HS-70-04-12	19.2204	19.1526	0.0678	0.3528			
	1HS-70-04-13	19.5708	19.5002	0.0706	0.3607	0.3437	0.0230	0.3219
	1HS-70-04-21	21.0372	20.9696	0.0676	0.3213			
	1HS-70-04-22	21.8153	21.7515	0.0638	0.2925			
	1HS-70-04-23	21.2367	21.1759	0.0608	0.2863	0.3000	0.0187	
2	2HS-70-04-11	20.0512	19.9974	0.0538	0.2683			
	2HS-70-04-12	19.8545	19.7937	0.0608	0.3062			
	2HS-70-04-13	21.0210	20.9574	0.0636	0.3026	0.2924	0.0209	0.2953
	2HS-70-04-21	19.0601	19.0044	0.0557	0.2922			
	2HS-70-04-22	20.5980	20.5361	0.0619	0.3005			
	2HS-70-04-23	20.3911	20.3295	0.0616	0.3021	0.2983	0.0053	
3	3HS-70-04-11	19.5310	19.4639	0.0671	0.3436			
	3HS-70-04-12	19.1870	19.1191	0.0679	0.3539			
	3HS-70-04-13	19.7772	19.7086	0.0686	0.3469	0.3481	0.0053	0.3409
	3HS-70-04-21	21.2743	21.2025	0.0718	0.3375			
	3HS-70-04-22	20.3640	20.2954	0.0686	0.3369			
	3HS-70-04-23	20.7492	20.6814	0.0678	0.3268	0.3337	0.0060	
4	4HS-70-04-11	20.1791	20.1129	0.0662	0.3281			
	4HS-70-04-12	19.2366	19.1649	0.0717	0.3727			
	4HS-70-04-13	21.2427	21.1642	0.0785	0.3695	0.3568	0.0249	0.3628
	4HS-70-04-21	21.1877	21.1087	0.0790	0.3729			
	4HS-70-04-22	21.5602	21.4835	0.0767	0.3557			
	4HS-70-04-23	20.3201	20.2433	0.0768	0.3780	0.3689	0.0116	
5	5HS-70-04-11	20.2260	20.1454	0.0806	0.3985			
	5HS-70-04-12	20.2335	20.1548	0.0787	0.3890			
	5HS-70-04-13	19.8849	19.8061	0.0788	0.3963	0.3946	0.0050	0.3981
	5HS-70-04-21	21.9778	21.8888	0.0890	0.4050			
	5HS-70-04-22	21.2868	21.2031	0.0837	0.3932			
	5HS-70-04-23	20.5522	20.4686	0.0836	0.4068	0.4016	0.0074	
6	6HS-70-04-11	22.5073	22.4830	0.0243	0.1080			
	6HS-70-04-12	22.5669	22.5394	0.0275	0.1219			
	6HS-70-04-13	24.3807	24.3546	0.0261	0.1071	0.1123	0.0083	0.1216
	6HS-70-04-21	22.0039	21.9755	0.0284	0.1291			
	6HS-70-04-22	20.9750	20.9484	0.0266	0.1268			
	6HS-70-04-23	21.9264	21.8964	0.0300	0.1368	0.1309	0.0052	

Table 18A: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 70°C for 24 hours.

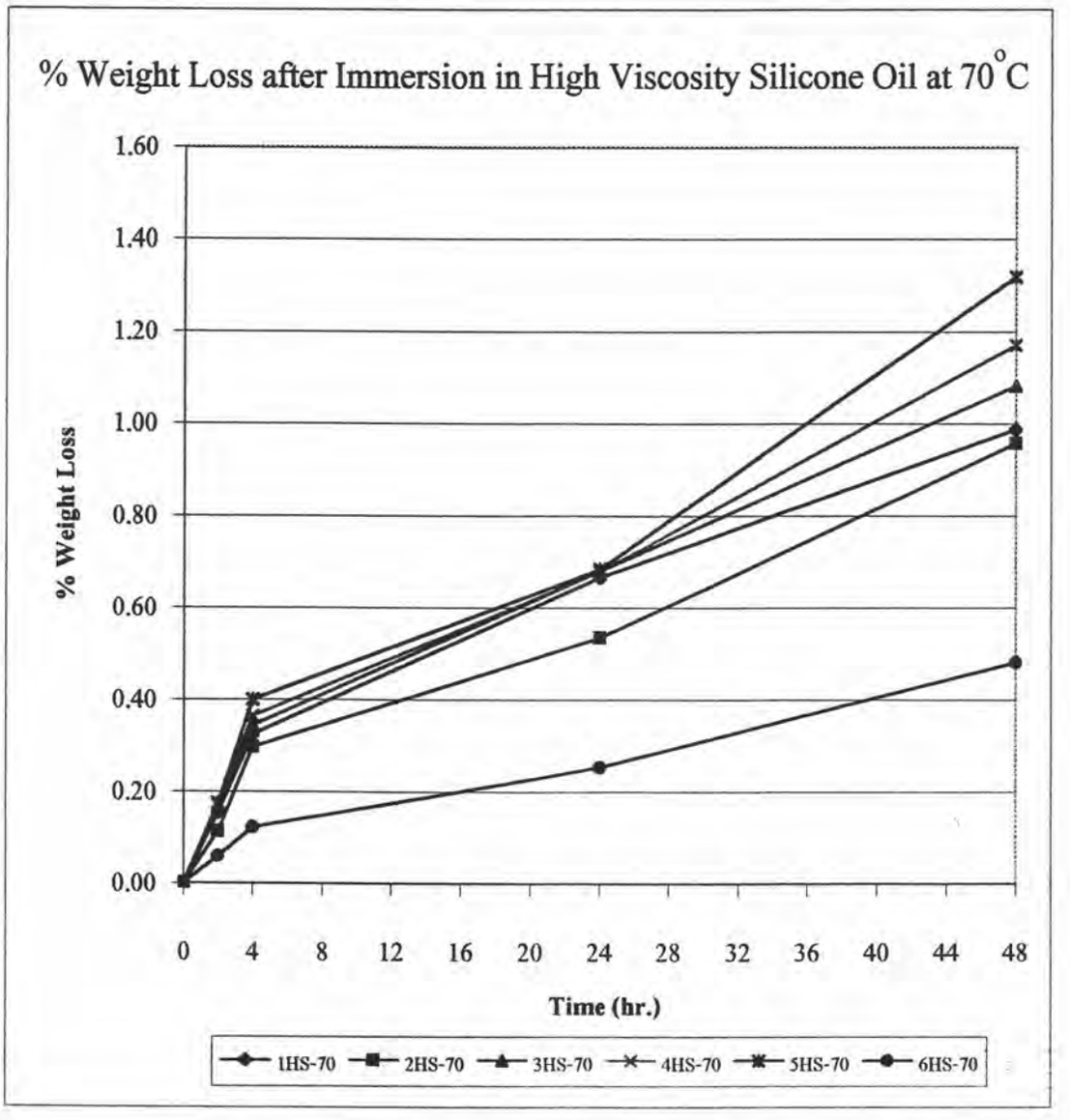
Formulation	Sample Code No.	Immersion for 24 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1HS-70-24-11	19.6708	19.5367	0.1341	0.6817	0.6667	0.0234
	1HS-70-24-12	20.3980	20.2675	0.1305	0.6398		
	1HS-70-24-13	18.4650	18.3397	0.1253	0.6786		
2	2HS-70-24-11	21.1210	21.0049	0.1161	0.5497	0.5336	0.0141
	2HS-70-24-12	20.2816	20.1754	0.1062	0.5236		
	2HS-70-24-13	20.4372	20.3294	0.1078	0.5275		
3	3HS-70-24-11	19.8772	19.7423	0.1349	0.6787	0.6806	0.0090
	3HS-70-24-12	20.0168	19.8786	0.1382	0.6904		
	3HS-70-24-13	19.6064	19.4745	0.1319	0.6727		
4	4HS-70-24-11	21.3427	21.2081	0.1346	0.6307	0.6789	0.0426
	4HS-70-24-12	19.2100	19.0733	0.1367	0.7116		
	4HS-70-24-13	19.7038	19.5670	0.1368	0.6943		
5	5HS-70-24-11	19.9649	19.8254	0.1395	0.6987	0.6843	0.0255
	5HS-70-24-12	19.6774	19.5398	0.1376	0.6993		
	5HS-70-24-13	20.4333	20.2995	0.1338	0.6548		
6	6HS-70-24-11	24.4807	24.3928	0.0879	0.3591	0.2514	0.0933
	6HS-70-24-12	24.3092	24.2622	0.0470	0.1933		
	6HS-70-24-13	22.3431	22.2980	0.0451	0.2019		

Table 19A: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 70°C for 48 hours.

Formulation	Sample Code No.	Immersion for 48 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1HS-70-48-11	20.7824	20.5840	0.1984	0.9547	0.9808	0.0281	0.9874
	1HS-70-48-12	20.3980	20.1987	0.1993	0.9771			
	1HS-70-48-13	18.4650	18.2784	0.1866	1.0106			
	1HS-70-48-21	21.4340	21.2271	0.2069	0.9653	0.9940	0.0340	
	1HS-70-48-22	20.7896	20.5848	0.2048	0.9851			
	1HS-70-48-23	19.9421	19.7364	0.2057	1.0315			
2	2HS-70-48-11	20.7383	20.5537	0.1846	0.8901	0.9218	0.0275	0.9576
	2HS-70-48-12	20.2816	20.0911	0.1905	0.9393			
	2HS-70-48-13	20.4372	20.2459	0.1913	0.9360			
	2HS-70-48-21	21.1776	20.9668	0.2108	0.9954	0.9934	0.0032	
	2HS-70-48-22	21.1989	20.9891	0.2098	0.9897			
	2HS-70-48-23	20.9711	20.7624	0.2087	0.9952			
3	3HS-70-48-11	19.8810	19.6800	0.2010	1.0110	1.0241	0.0131	1.0803
	3HS-70-48-12	20.0168	19.8092	0.2076	1.0371			
	3HS-70-48-13	19.6064	19.4056	0.2008	1.0242			
	3HS-70-48-21	21.0794	20.8433	0.2361	1.1201	1.1365	0.0354	
	3HS-70-48-22	21.5330	21.2935	0.2395	1.1122			
	3HS-70-48-23	19.8885	19.6544	0.2341	1.1771			
4	4HS-70-48-11	19.1306	18.9144	0.2162	1.1301	1.1191	0.0133	1.1701
	4HS-70-48-12	19.2100	18.9943	0.2157	1.1229			
	4HS-70-48-13	19.7038	19.4862	0.2176	1.1044			
	4HS-70-48-21	21.5604	21.2912	0.2692	1.2486	1.2211	0.0249	
	4HS-70-48-22	21.7763	21.5118	0.2645	1.2146			
	4HS-70-48-23	21.7673	21.5061	0.2612	1.2000			
5	5HS-70-48-11	20.4545	20.1733	0.2812	1.3748	1.3654	0.0236	1.3197
	5HS-70-48-12	19.6974	19.4250	0.2724	1.3829			
	5HS-70-48-13	20.4533	20.1795	0.2738	1.3387			
	5HS-70-48-21	20.7226	20.4577	0.2649	1.2783	1.2739	0.0140	
	5HS-70-48-22	21.3046	21.0308	0.2738	1.2852			
	5HS-70-48-23	21.0375	20.7728	0.2647	1.2582			
6	6HS-70-48-11	22.6852	22.5747	0.1105	0.4871	0.4761	0.0166	0.4812
	6HS-70-48-12	24.3092	24.1981	0.1111	0.4570			
	6HS-70-48-13	22.3431	22.2349	0.1082	0.4843			
	6HS-70-48-21	22.3734	22.2644	0.1090	0.4872	0.4863	0.0017	
	6HS-70-48-22	22.1371	22.0292	0.1079	0.4874			
	6HS-70-48-23	22.2991	22.1911	0.1080	0.4843			

Table 20A: Average of %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 70°C.

Time (hr.)	Formulation 1 1HS-70	Formulation 2 2HS-70	Formulation 3 3HS-70	Formulation 4 4HS-70	Formulation 5 5HS-70	Formulation 6 6HS-70
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.1534	0.1113	0.1655	0.1714	0.1735	0.0585
4	0.3219	0.2953	0.3409	0.3628	0.3981	0.1216
24	0.6667	0.5336	0.6806	0.6789	0.6843	0.2514
48	0.9874	0.9576	1.0803	1.1701	1.3197	0.4812



APPENDIX B

Table 1B: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 120°C for 2 hours.

Formulation	Sample Code No.	Immersion for 2 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1LM-120-02-11	20.8819	20.7196	0.1623	0.7772	0.7874	0.0334
	1LM-120-02-12	20.6777	20.5205	0.1572	0.7602		
	1LM-120-02-13	19.1341	18.9763	0.1578	0.8247		
2	2LM-120-02-11	20.0377	19.8848	0.1529	0.7631	0.7720	0.0147
	2LM-120-02-12	19.1405	18.9895	0.1510	0.7889		
	2LM-120-02-13	20.6692	20.5113	0.1579	0.7639		
3	3LM-120-02-11	20.8692	20.7023	0.1669	0.7997	0.8093	0.0084
	3LM-120-02-12	19.5656	19.4066	0.1590	0.8127		
	3LM-120-02-13	19.6095	19.4496	0.1599	0.8154		
4	4LM-120-02-11	22.2757	22.1049	0.1708	0.7668	0.7752	0.0073
	4LM-120-02-12	21.5870	21.4186	0.1684	0.7801		
	4LM-120-02-13	22.3963	22.2219	0.1744	0.7787		
5	5LM-120-02-11	21.1861	20.9733	0.2128	1.0044	1.0604	0.0705
	5LM-120-02-12	19.8706	19.6645	0.2061	1.0372		
	5LM-120-02-13	18.8415	18.6268	0.2147	1.1395		
6	6LM-120-02-11	23.3395	23.2092	0.1303	0.5583	0.5649	0.0138
	6LM-120-02-12	22.9286	22.8012	0.1274	0.5556		
	6LM-120-02-13	21.3682	21.2441	0.1241	0.5808		

Table 2B: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 120°C for 4 hours.

Formulation	Sample No.	Immersion for 4 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1LM-120-04-11	21.7849	21.5346	0.2503	1.1490	1.1732	0.0265	1.2228
	1LM-120-04-12	21.0002	20.7547	0.2455	1.1690			
	1LM-120-04-13	20.4243	20.1789	0.2454	1.2015			
	1LM-120-04-21	19.2373	18.9777	0.2596	1.3495	1.2724	0.0746	
	1LM-120-04-22	19.9088	19.6565	0.2523	1.2673			
	1LM-120-04-23	19.6752	19.4390	0.2362	1.2005			
2	2LM-120-04-11	19.1861	18.9533	0.2328	1.2134	1.1734	0.0386	1.1899
	2LM-120-04-12	19.4729	19.2450	0.2279	1.1703			
	2LM-120-04-13	20.5308	20.2975	0.2333	1.1363			
	2LM-120-04-21	19.9556	19.7105	0.2451	1.2282	1.2065	0.0491	
	2LM-120-04-22	20.1216	19.8719	0.2497	1.2410			
	2LM-120-04-23	19.8643	19.6358	0.2285	1.1503			
3	3LM-120-04-11	21.9117	21.6447	0.2670	1.2185	1.2261	0.0347	1.2924
	3LM-120-04-12	21.7265	21.4667	0.2598	1.1958			
	3LM-120-04-13	21.4340	21.1631	0.2709	1.2639			
	3LM-120-04-21	19.6736	19.4075	0.2661	1.3526	1.3587	0.0171	
	3LM-120-04-22	19.6289	19.3584	0.2705	1.3781			
	3LM-120-04-23	19.4568	19.1950	0.2618	1.3455			
4	4LM-120-04-11	21.0391	20.7806	0.2585	1.2287	1.2381	0.0084	1.3330
	4LM-120-04-12	21.7378	21.4681	0.2697	1.2407			
	4LM-120-04-13	20.9586	20.6977	0.2609	1.2448			
	4LM-120-04-21	20.7990	20.5169	0.2821	1.3563	1.4279	0.0640	
	4LM-120-04-22	19.6892	19.3979	0.2913	1.4795			
	4LM-120-04-23	19.2546	18.9758	0.2788	1.4480			
5	5LM-120-04-11	21.0574	20.7983	0.2591	1.2304	1.2460	0.0422	1.3513
	5LM-120-04-12	21.1011	20.8281	0.2730	1.2938			
	5LM-120-04-13	20.6972	20.4460	0.2512	1.2137			
	5LM-120-04-21	20.1358	19.8346	0.3012	1.4958	1.4566	0.0341	
	5LM-120-04-22	19.5024	19.2217	0.2807	1.4393			
	5LM-120-04-23	19.4623	19.1831	0.2792	1.4346			
6	6LM-120-04-11	22.7938	22.5514	0.2424	1.0634	1.0886	0.0261	1.1236
	6LM-120-04-12	22.4476	22.1972	0.2504	1.1155			
	6LM-120-04-13	22.0527	21.8130	0.2397	1.0869			
	6LM-120-04-21	21.5405	21.2800	0.2605	1.2093	1.1585	0.1090	
	6LM-120-04-22	24.5500	24.2963	0.2537	1.0334			
	6LM-120-04-23	19.5490	19.3080	0.2410	1.2328			

Table 3B: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 120°C for 24 hours.

Formulation	Sample No.	Immersion for 24 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1LM-120-24-11	21.7849	21.0845	0.7004	3.2151	3.2987	0.0747
	1LM-120-24-12	21.0002	20.3025	0.6977	3.3223		
	1LM-120-24-13	20.4243	19.7383	0.6860	3.3587		
2	2LM-120-24-11	19.1861	18.4910	0.6951	3.6229	3.5314	0.1025
	2LM-120-24-12	19.4729	18.7815	0.6914	3.5506		
	2LM-120-24-13	20.5308	19.8285	0.7023	3.4207		
3	3LM-120-24-11	21.9117	21.1397	0.7720	3.5232	3.5221	0.0038
	3LM-120-24-12	21.7263	20.9620	0.7643	3.5179		
	3LM-120-24-13	21.4340	20.6784	0.7556	3.5252		
4	4LM-120-24-11	21.0391	20.1957	0.8434	4.0087	3.9554	0.1076
	4LM-120-24-12	21.7378	20.9049	0.8329	3.8316		
	4LM-120-24-13	20.9586	20.1148	0.8438	4.0260		
5	5LM-120-24-11	21.0474	20.1141	0.9333	4.4343	4.4178	0.0183
	5LM-120-24-12	21.0910	20.1634	0.9276	4.3981		
	5LM-120-24-13	20.6872	19.7726	0.9146	4.4211		
6	6LM-120-24-11	22.7938	22.1017	0.6921	3.0364	3.0874	0.0593
	6LM-120-24-12	22.4476	21.7577	0.6899	3.0734		
	6LM-120-24-13	22.0527	21.3575	0.6952	3.1524		

Table 4B: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 120°C for 48 hours.

Formulation	Sample No.	Immersion for 48 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1LM-120-48-11	20.8819	19.8140	1.0679	5.1140			
	1LM-120-48-12	20.6777	19.6143	1.0634	5.1427			
	1LM-120-48-13	19.1341	18.0900	1.0441	5.4567	5.2378	0.1901	5.3487
	1LM-120-48-21	19.4737	18.4009	1.0728	5.5090			
	1LM-120-48-22	19.1634	18.0800	1.0834	5.6535			
	1LM-120-48-23	19.5679	18.5472	1.0207	5.2162	5.4595	0.2228	
2	2LM-120-48-11	20.0377	18.8925	1.1452	5.7152			
	2LM-120-48-12	19.1405	18.0014	1.1391	5.9513			
	2LM-120-48-13	20.6692	19.5122	1.1570	5.5977	5.7547	0.1801	5.8649
	2LM-120-48-21	18.9912	17.8235	1.1677	6.1486			
	2LM-120-48-22	19.6517	18.4753	1.1764	5.9863			
	2LM-120-48-23	19.3645	18.2432	1.1213	5.7905	5.9751	0.1793	
3	3LM-120-48-11	20.8392	19.6885	1.1507	5.5218			
	3LM-120-48-12	19.5656	18.4076	1.1580	5.9186			
	3LM-120-48-13	19.6095	18.4459	1.1636	5.9339	5.7914	0.2336	5.8333
	3LM-120-48-21	20.8077	19.6240	1.1837	5.6888			
	3LM-120-48-22	19.7944	18.5975	1.1969	6.0467			
	3LM-120-48-23	19.5762	18.4231	1.1531	5.8903	5.8752	0.1794	
4	4LM-120-48-11	22.2757	20.9214	1.3543	6.0797			
	4LM-120-48-12	21.5870	20.2170	1.3700	6.3464			
	4LM-120-48-13	22.3963	21.0248	1.3715	6.1238	6.1833	0.1430	6.5664
	4LM-120-48-21	19.9408	18.5862	1.3546	6.7931			
	4LM-120-48-22	19.5449	18.2009	1.3440	6.8765			
	4LM-120-48-23	19.3546	17.9651	1.3895	7.1792	6.9496	0.2032	
5	5LM-120-48-11	21.1861	19.7071	1.4790	6.9810			
	5LM-120-48-12	19.8706	18.4410	1.4296	7.1945			
	5LM-120-48-13	18.8415	17.3024	1.5391	8.1687	7.4481	0.6331	7.5182
	5LM-120-48-21	19.1241	17.6547	1.4694	7.6835			
	5LM-120-48-22	19.5747	18.1174	1.4573	7.4448			
	5LM-120-48-23	19.4513	17.9659	1.4854	7.6365	7.5883	0.1264	
6	6LM-120-48-11	23.3395	22.2058	1.1337	4.8574			
	6LM-120-48-12	22.9286	21.7985	1.1301	4.9288			
	6LM-120-48-13	21.6382	20.4994	1.1388	5.2629	5.0164	0.2165	5.2479
	6LM-120-48-21	22.7806	21.6046	1.1760	5.1623			
	6LM-120-48-22	21.9028	20.7366	1.1662	5.3244			
	6LM-120-48-23	19.9732	18.7845	1.1887	5.9515	5.4794	0.4168	

Table 5B : Average of %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 120°C.

Time (hr.)	Formulation 1 1LM-120	Formulation 2 2LM-120	Formulation 3 3LM-120	Formulation 4 4LM-120	Formulation 5 5LM-120	Formulation 6 6LM-120
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.7874	0.7720	0.8093	0.7752	1.0604	0.5649
4	1.2228	1.1899	1.2924	1.3330	1.3513	1.1236
24	3.2987	3.5314	3.5221	3.9554	4.4178	3.0874
48	5.3487	5.8649	5.8333	6.5664	7.5182	5.2479

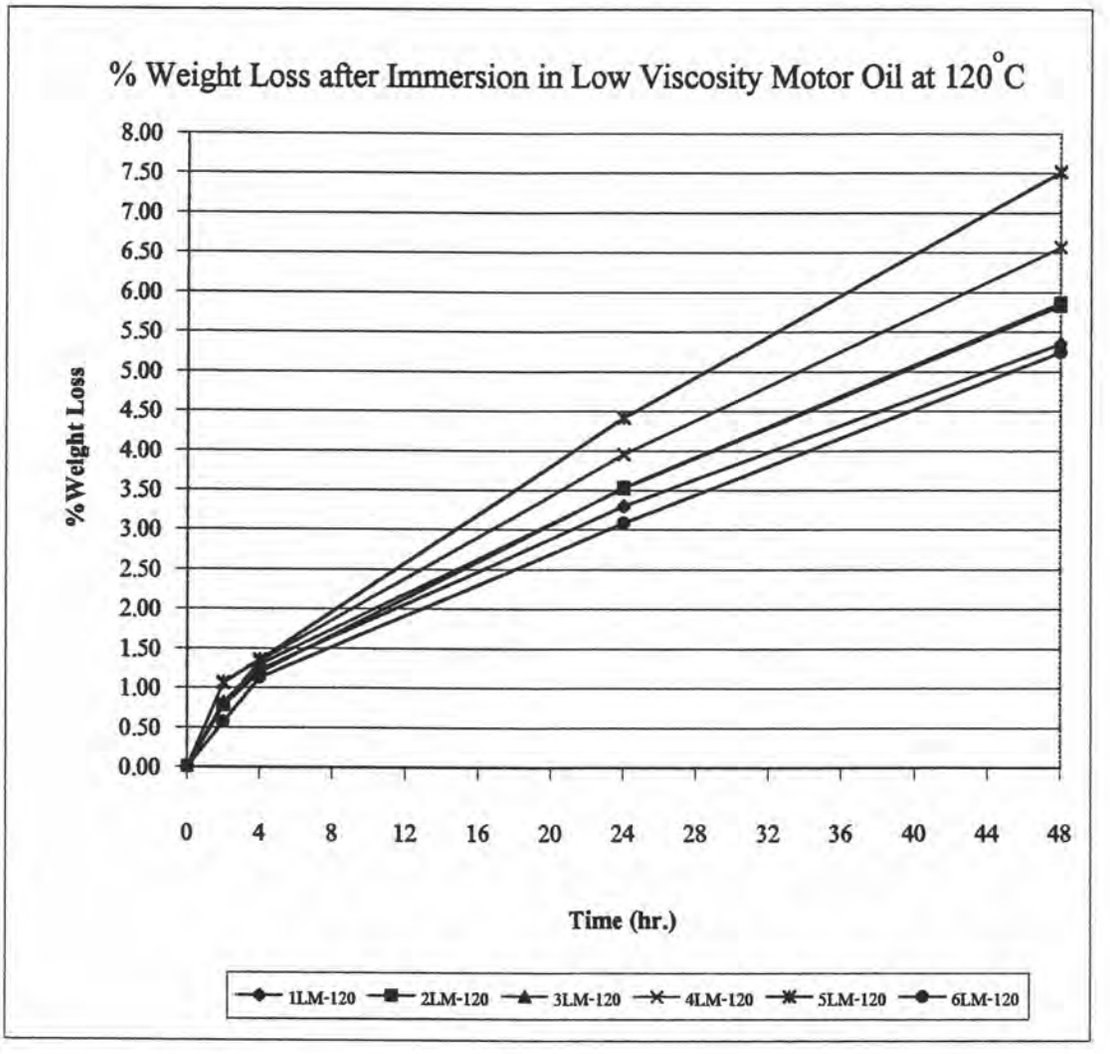


Table 6B: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Motor Oil at 120°C for 2 hours.

Formulation	Sample Code No.	Immersion for 2 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1HM-120-02-11	19.9531	19.7347	0.2184	1.0946	1.1089	0.0453
	1HM-120-02-12	20.3925	20.1738	0.2187	1.0725		
	1HM-120-02-13	19.0064	18.7860	0.2204	1.1596		
2	2HM-120-02-11	20.1037	19.8914	0.2123	1.0560	1.0705	0.0282
	2HM-120-02-12	19.3214	19.1083	0.2131	1.1029		
	2HM-120-02-13	20.5515	20.3352	0.2163	1.0525		
3	3HM-120-02-11	19.0746	18.8479	0.2267	1.1885	1.1688	0.0170
	3HM-120-02-12	19.3748	19.1504	0.2244	1.1582		
	3HM-120-02-13	19.8482	19.6180	0.2302	1.1598		
4	4HM-120-02-11	21.7519	21.5205	0.2314	1.0638	1.0775	0.0200
	4HM-120-02-12	21.9739	21.7321	0.2418	1.1004		
	4HM-120-02-13	22.0466	21.8111	0.2355	1.0682		
5	5HM-120-02-11	20.4546	20.2066	0.2480	1.2124	1.1997	0.0172
	5HM-120-02-12	20.0831	19.8461	0.2370	1.1801		
	5HM-120-02-13	20.1636	19.9203	0.2433	1.2066		
6	6HM-120-02-11	21.9248	21.7428	0.1820	0.8301	0.8413	0.0111
	6HM-120-02-12	21.7508	21.5654	0.1854	0.8524		
	6HM-120-02-13	22.1854	21.9987	0.1867	0.8415		

Table 7B: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Motor Oil at 120°C for 4 hours.

Formulation	Sample No.	Immersion for 4 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1HM-120-04-11	19.4529	19.1741	0.2788	1.4332	1.4107	0.0197	1.4236
	1HM-120-04-12	19.8309	19.5539	0.2770	1.3968			
	1HM-120-04-13	19.8700	19.5914	0.2786	1.4021			
	1HM-120-04-21	19.7071	19.4145	0.2926	1.4847	1.4365	0.0632	
	1HM-120-04-22	19.4819	19.1975	0.2844	1.4598			
	1HM-120-04-23	19.4657	19.2000	0.2657	1.3650			
2	2HM-120-04-11	19.5187	19.2543	0.2644	1.3546	1.3509	0.0380	1.3941
	2HM-120-04-12	20.1729	19.9084	0.2645	1.3112			
	2HM-120-04-13	18.8555	18.5940	0.2615	1.3869			
	2HM-120-04-21	19.6068	19.3249	0.2819	1.4378	1.4373	0.0214	
	2HM-120-04-22	19.9835	19.7006	0.2829	1.4157			
	2HM-120-04-23	18.4584	18.1892	0.2692	1.4584			
3	3HM-120-04-11	19.9538	19.6708	0.2830	1.4183	1.4509	0.0296	1.4572
	3HM-120-04-12	19.1101	18.8280	0.2821	1.4762			
	3HM-120-04-13	19.5323	19.2475	0.2848	1.4581			
	3HM-120-04-21	18.9558	18.6584	0.2974	1.5689	1.4636	0.1290	
	3HM-120-04-22	20.1915	19.8882	0.3033	1.5021			
	3HM-120-04-23	19.2543	19.0002	0.2541	1.3197			
4	4HM-120-04-11	21.5812	21.2786	0.3026	1.4021	1.3426	0.0792	1.4274
	4HM-120-04-12	21.1014	20.8117	0.2897	1.3729			
	4HM-120-04-13	21.9692	21.6940	0.2752	1.2527			
	4HM-120-04-21	19.8386	19.5640	0.2746	1.3842	1.5123	0.1162	
	4HM-120-04-22	19.7224	19.4183	0.3041	1.5419			
	4HM-120-04-23	19.8723	19.5522	0.3201	1.6108			
5	5HM-120-04-11	19.5145	19.2245	0.2900	1.4861	1.5080	0.0281	1.5393
	5HM-120-04-12	19.1803	18.8850	0.2953	1.5396			
	5HM-120-04-13	19.8372	19.5400	0.2972	1.4982			
	5HM-120-04-21	21.1467	20.8228	0.3239	1.5317	1.5707	0.0401	
	5HM-120-04-22	20.9210	20.5928	0.3282	1.5688			
	5HM-120-04-23	19.8786	19.5582	0.3204	1.6118			
6	6HM-120-04-11	20.1598	19.9222	0.2376	1.1786	1.1312	0.0531	1.1879
	6HM-120-04-12	22.1189	21.8814	0.2375	1.0737			
	6HM-120-04-13	20.4082	20.1753	0.2329	1.1412			
	6HM-120-04-21	20.1029	19.8417	0.2612	1.2993	1.2445	0.0709	
	6HM-120-04-22	20.6103	20.3486	0.2617	1.2698			
	6HM-120-04-23	19.7851	19.5547	0.2304	1.1645			

Table 8B: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Motor Oil at 120°C for 24 hours.

Formulation	Sample No.	Immersion for 24 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1HM-120-24-11	19.4529	18.6945	0.7584	3.8986	3.8335	0.0586
	1HM-120-24-12	19.8309	19.0740	0.7569	3.8168		
	1HM-120-24-13	19.8700	19.1179	0.7521	3.7851		
2	2HM-120-24-11	19.5187	18.7755	0.7432	3.8076	3.8255	0.1393
	2HM-120-24-12	20.1729	19.4273	0.7456	3.6960		
	2HM-120-24-13	18.8555	18.1064	0.7491	3.9728		
3	3HM-120-24-11	19.9538	19.1878	0.7660	3.8389	3.9457	0.1013
	3HM-120-24-12	19.1101	18.3380	0.7721	4.0403		
	3HM-120-24-13	19.5323	18.7592	0.7731	3.9581		
4	4HM-120-24-11	21.5812	20.7469	0.8343	3.8659	3.9015	0.0848
	4HM-120-24-12	21.1014	20.2577	0.8437	3.9983		
	4HM-120-24-13	21.9692	21.1255	0.8437	3.8404		
5	5HM-120-24-11	19.5145	18.5584	0.9561	4.8994	4.9305	0.1282
	5HM-120-24-12	19.1803	18.2076	0.9727	5.0713		
	5HM-120-24-13	19.8372	18.8809	0.9563	4.8207		
6	6HM-120-24-11	23.1598	22.5085	0.6513	2.8122	2.8909	0.0824
	6HM-120-24-12	22.1189	21.4605	0.6584	2.9766		
	6HM-120-24-13	22.4082	21.7620	0.6462	2.8838		

Table 9B: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Motor Oil at 120°C for 48 hours.

Formulation	Sample No.	Immersion for 48 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1HM-120-48-11	19.9531	18.7672	1.1859	5.9434			
	1HM-120-48-12	20.3925	19.2091	1.1834	5.8031			
	1HM-120-48-13	19.0064	17.8309	1.1755	6.1848	5.9771	0.1930	5.9504
	1HM-120-48-21	19.2287	18.0805	1.1482	5.9713			
	1HM-120-48-22	19.4548	18.2976	1.1572	5.9481			
	1HM-120-48-23	19.6000	18.4531	1.1469	5.8515	5.9237	0.0635	
2	2HM-120-48-11	20.1037	18.9391	1.1646	5.7930			
	2HM-120-48-12	19.3214	18.1629	1.1585	5.9959			
	2HM-120-48-13	20.5515	19.3872	1.1643	5.6653	5.8181	0.1668	5.7277
	2HM-120-48-21	20.1168	18.9818	1.1350	5.6421			
	2HM-120-48-22	20.9444	19.7967	1.1477	5.4797			
	2HM-120-48-23	19.8752	18.7244	1.1508	5.7901	5.6373	0.1552	
3	3HM-120-48-11	19.0746	17.9217	1.1529	6.0442			
	3HM-120-48-12	19.3748	18.2118	1.1630	6.0026			
	3HM-120-48-13	19.8482	18.6835	1.1647	5.8680	5.9716	0.0921	5.8476
	3HM-120-48-21	20.8341	19.6580	1.1761	5.6451			
	3HM-120-48-22	20.3855	19.2194	1.1661	5.7202			
	3HM-120-48-23	20.2866	19.1089	1.1777	5.8053	5.7235	0.0802	
4	4HM-120-48-11	21.7519	20.3857	1.3662	6.2808			
	4HM-120-48-12	21.9739	20.6022	1.3717	6.2424			
	4HM-120-48-13	22.0466	20.6749	1.3717	6.2218	6.2484	0.0300	6.4497
	4HM-120-48-21	21.2688	19.9249	1.3439	6.3186			
	4HM-120-48-22	19.9880	18.6425	1.3455	6.7315			
	4HM-120-48-23	19.5484	18.1990	1.3494	6.9029	6.6510	0.3003	
5	5HM-120-48-11	20.4546	19.0030	1.4516	7.0967			
	5HM-120-48-12	20.0831	18.5908	1.4923	7.4306			
	5HM-120-48-13	20.1636	18.7159	1.4477	7.1798	7.2357	0.1738	7.1218
	5HM-120-48-21	20.9490	19.4781	1.4709	7.0213			
	5HM-120-48-22	20.7346	19.2827	1.4519	7.0023			
	5HM-120-48-23	20.5468	19.1085	1.4383	7.0001	7.0079	0.0117	
6	6HM-120-48-11	21.9248	20.8569	1.0679	4.8707			
	6HM-120-48-12	21.7508	20.6912	1.0596	4.8715			
	6HM-120-48-13	20.1854	19.1259	1.0595	5.2488	4.9970	0.2181	5.0493
	6HM-120-48-21	20.6159	19.5555	1.0604	5.1436			
	6HM-120-48-22	20.1407	19.0963	1.0444	5.1855			
	6HM-120-48-23	19.8972	18.9072	0.9900	4.9756	5.1016	0.1111	

Table 10B: Average of %Weight Loss of Specimens of Formulation 1~6 in Hight Viscosity Motor Oil at 120°C.

Time (hr.)	Formulation 1 1HM-120	Formulation 2 2HM-120	Formulation 3 3HM-120	Formulation 4 4HM-120	Formulation 5 5HM-120	Formulation 6 6HM-120
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	1.1089	1.0705	1.1688	1.0775	1.1997	0.8413
4	1.4236	1.3941	1.4572	1.4274	1.5393	1.1879
24	3.8335	3.8255	3.9457	3.9015	4.9350	2.8909
48	5.9504	5.7277	5.8476	6.4497	7.1218	5.0493

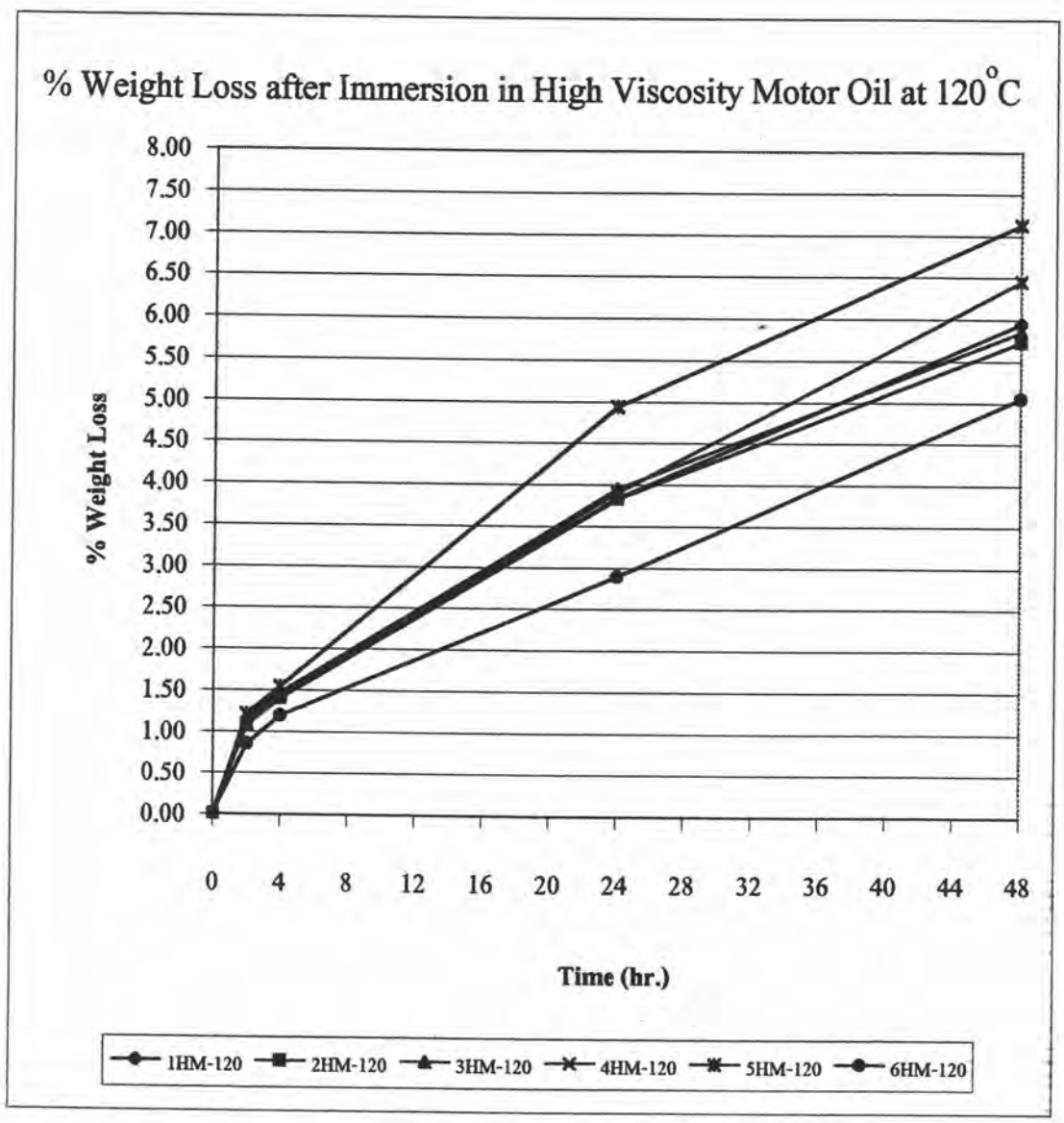


Table 11B: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 120°C for 2 hours.

Formulation	Sample Code No.	Immersion for 2 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1LS-120-02-11	19.5275	19.3096	0.2179	1.1159	1.0906	0.0227
	1LS-120-02-12	18.9195	18.7144	0.2051	1.0841		
	1LS-120-02-13	19.2630	19.0565	0.2065	1.0720		
2	2LS-120-02-11	20.5323	20.3459	0.1864	0.9078	0.9433	0.0597
	2LS-120-02-12	19.9648	19.7627	0.2021	1.0123		
	2LS-120-02-13	20.2774	20.0929	0.1845	0.9099		
3	3LS-120-02-11	19.5102	19.3037	0.2065	1.0584	1.0947	0.0535
	3LS-120-02-12	19.4531	19.2282	0.2249	1.1561		
	3LS-120-02-13	19.2409	19.0351	0.2058	1.0696		
4	4LS-120-02-11	19.6787	19.4518	0.2269	1.1530	1.1602	0.0112
	4LS-120-02-12	19.7667	19.5385	0.2282	1.1545		
	4LS-120-02-13	19.3920	19.1645	0.2275	1.1732		
5	5LS-120-02-11	19.8776	19.6627	0.2149	1.0811	1.1523	0.0618
	5LS-120-02-12	19.8708	19.6354	0.2354	1.1847		
	5LS-120-02-13	19.6015	19.3680	0.2335	1.1912		
6	6LS-120-02-11	23.2335	23.0484	0.1851	0.7967	0.7996	0.0062
	6LS-120-02-12	22.1272	21.9487	0.1785	0.8067		
	6LS-120-02-13	23.0087	22.8257	0.1830	0.7954		

Table 12B: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 120°C for 4 hours.

Formulation	Sample Code No.	Immersion for 4 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1LS-120-04-11	19.5275	19.2630	0.2645	1.3545			
	1LS-120-04-12	18.9195	18.6567	0.2628	1.3890			
	1LS-120-04-13	19.4549	19.1916	0.2633	1.3534	1.3656	0.0203	1.3170
	1LS-120-04-21	19.6258	19.3769	0.2489	1.2682			
	1LS-120-04-22	20.1083	19.8545	0.2538	1.2622			
	1LS-120-04-23	19.3695	19.1226	0.2469	1.2747	1.2684	0.0063	
2	2LS-120-04-11	20.5323	20.2774	0.2549	1.2415			
	2LS-120-04-12	19.9648	19.7153	0.2495	1.2497			
	2LS-120-04-13	19.7318	19.4750	0.2568	1.3015	1.2642	0.0325	1.2705
	2LS-120-04-21	19.9645	19.7197	0.2448	1.2262			
	2LS-120-04-22	19.9761	19.7340	0.2421	1.2119			
	2LS-120-04-23	19.1506	18.8840	0.2666	1.3921	1.2767	0.1002	
3	3LS-120-04-11	19.5102	19.2409	0.2693	1.3803			
	3LS-120-04-12	19.4531	19.1857	0.2674	1.3746			
	3LS-120-04-13	19.5548	19.2884	0.2664	1.3623	1.3724	0.0092	1.3791
	3LS-120-04-21	19.7840	19.5216	0.2624	1.3263			
	3LS-120-04-22	18.7118	18.4593	0.2525	1.3494			
	3LS-120-04-23	18.4956	18.2216	0.2740	1.4814	1.3857	0.0837	
4	4LS-120-04-11	19.6787	19.3920	0.2867	1.4569			
	4LS-120-04-12	19.7667	19.4777	0.2890	1.4621			
	4LS-120-04-13	19.6166	19.3450	0.2716	1.3845	1.4345	0.0433	1.4049
	4LS-120-04-21	20.1904	19.9180	0.2724	1.3492			
	4LS-120-04-22	19.0168	18.7521	0.2647	1.3919			
	4LS-120-04-23	19.1177	18.8530	0.2647	1.3846	1.3752	0.0229	
5	5LS-120-04-11	19.8776	19.6015	0.2761	1.3890			
	5LS-120-04-12	19.8708	19.5904	0.2804	1.4111			
	5LS-120-04-13	20.2238	19.9372	0.2866	1.4171	1.4058	0.0148	1.3787
	5LS-120-04-21	21.6485	21.3550	0.2935	1.3558			
	5LS-120-04-22	21.1671	20.8857	0.2814	1.3294			
	5LS-120-04-23	19.5927	19.3243	0.2684	1.3699	1.3517	0.0205	
6	6LS-120-04-11	23.2335	23.0187	0.2148	0.9245			
	6LS-120-04-12	22.1272	21.9070	0.2202	0.9952			
	6LS-120-04-13	22.5808	22.3567	0.2241	0.9924	0.9707	0.0400	1.0366
	6LS-120-04-21	21.0762	20.8364	0.2398	1.1378			
	6LS-120-04-22	22.8240	22.5976	0.2264	0.9919			
	6LS-120-04-23	19.6482	19.4168	0.2314	1.1777	1.1025	0.0978	

Table 13B: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 120°C for 24 hours.

Formulation	Sample Code No.	Immersion for 24 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1LS-120-24-11	18.7249	18.0155	0.7094	3.7885	3.7937	0.0240
	1LS-120-24-12	18.9975	18.2808	0.7167	3.7726		
	1LS-120-24-13	18.9093	18.1870	0.7223	3.8198		
2	2LS-120-24-11	20.0459	19.3690	0.6769	3.3768	3.5069	0.1625
	2LS-120-24-12	18.9320	18.2336	0.6984	3.6890		
	2LS-120-24-13	20.1598	19.4633	0.6965	3.4549		
3	3LS-120-24-11	19.8918	19.1166	0.7752	3.8971	3.9531	0.0581
	3LS-120-24-12	19.7715	18.9907	0.7808	3.9491		
	3LS-120-24-13	19.5336	18.7497	0.7839	4.0131		
4	4LS-120-24-11	19.5333	18.6306	0.9027	4.6213	4.4730	0.1699
	4LS-120-24-12	20.7810	19.8900	0.8910	4.2876		
	4LS-120-24-13	19.7577	18.8666	0.8911	4.5100		
5	5LS-120-24-11	19.0432	18.0795	0.9637	5.0606	4.9713	0.1776
	5LS-120-24-12	20.2695	19.3033	0.9662	4.7668		
	5LS-120-24-13	18.7992	17.8430	0.9562	5.0864		
6	6LS-120-24-11	23.7171	23.0774	0.6397	2.6972	3.0610	0.3168
	6LS-120-24-12	20.0186	19.3628	0.6558	3.2760		
	6LS-120-24-13	20.1509	19.5041	0.6468	3.2098		

Table 14B: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 120°C for 48 hours.

Formulation	Sample Code No.	Immersion for 48 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1LS-120-48-11	19.1949	18.1998	0.9951	5.1842			
	1LS-120-48-12	18.9975	17.9913	1.0062	5.2965			
	1LS-120-48-13	18.9093	17.9151	0.9942	5.2577	5.2461	0.0570	5.1894
	1LS-120-48-21	19.8073	18.7969	1.0104	5.1011			
	1LS-120-48-22	19.9796	18.9626	1.0170	5.0902			
	1LS-120-48-23	19.3987	18.3887	1.0100	5.2065	5.1326	0.0642	
2	2LS-120-48-11	20.7259	19.7142	1.0117	4.8813			
	2LS-120-48-12	18.9320	17.9213	1.0107	5.3386			
	2LS-120-48-13	20.1598	19.1449	1.0149	5.0343	5.0847	0.2328	5.0503
	2LS-120-48-21	20.1610	19.1506	1.0104	5.0117			
	2LS-120-48-22	20.0983	19.0892	1.0091	5.0208			
	2LS-120-48-23	19.5027	18.5246	0.9781	5.0152	5.0159	0.0046	
3	3LS-120-48-11	20.3518	19.2651	1.0867	5.3396			
	3LS-120-48-12	19.7715	18.6901	1.0814	5.4695			
	3LS-120-48-13	19.5336	18.4483	1.0853	5.5561	5.4550	0.1090	5.4714
	3LS-120-48-21	18.4421	17.3692	1.0729	5.8177			
	3LS-120-48-22	19.9535	18.8678	1.0857	5.4412			
	3LS-120-48-23	19.9214	18.8846	1.0368	5.2045	5.4878	0.3093	
4	4LS-120-48-11	20.4233	19.2303	1.1930	5.8414			
	4LS-120-48-12	20.7810	19.5813	1.1997	5.7731			
	4LS-120-48-13	19.7567	18.5674	1.1893	6.0197	5.8781	0.1274	5.8500
	4LS-120-48-21	20.1073	18.9309	1.1764	5.8506			
	4LS-120-48-22	19.7925	18.6086	1.1839	5.9816			
	4LS-120-48-23	19.9465	18.8228	1.1237	5.6336	5.8219	0.1758	
5	5LS-120-48-11	20.7832	19.5873	1.1959	5.7542			
	5LS-120-48-12	20.2695	19.0886	1.1809	5.8260			
	5LS-120-48-13	18.7992	17.6254	1.1738	6.2439	5.9413	0.2645	5.8409
	5LS-120-48-21	20.7889	19.6185	1.1704	5.6299			
	5LS-120-48-22	21.2208	20.0346	1.1862	5.5898			
	5LS-120-48-23	19.4967	18.3266	1.1701	6.0015	5.7404	0.2270	
6	6LS-120-48-11	24.3872	23.4066	0.9806	4.0210			
	6LS-120-48-12	24.0186	23.0256	0.9930	4.1343			
	6LS-120-48-13	24.1509	23.1639	0.9870	4.0868	4.0807	0.0569	4.3619
	6LS-120-48-21	23.3361	22.3266	1.0095	4.3259			
	6LS-120-48-22	22.3819	21.3819	1.0000	4.4679			
	6LS-120-48-23	19.8462	18.8269	1.0193	5.1358	4.6432	0.4325	

Table 15B: Average of %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 120°C.

Time (hr.)	Formulation 1	Formulation 2	Formulation 3	Formulation 4	Formulation 5	Formulation 6
	1LS-120	2LS-120	3LS-120	4LS-120	5LS-120	6LS-120
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	1.0906	0.9433	1.0947	1.1602	1.1523	0.7996
4	1.3170	1.2705	1.3791	1.4049	1.3787	1.0366
24	3.7937	3.5069	3.9531	4.4730	4.9713	3.0610
48	5.1894	5.0503	5.4714	5.8500	5.8409	4.3619

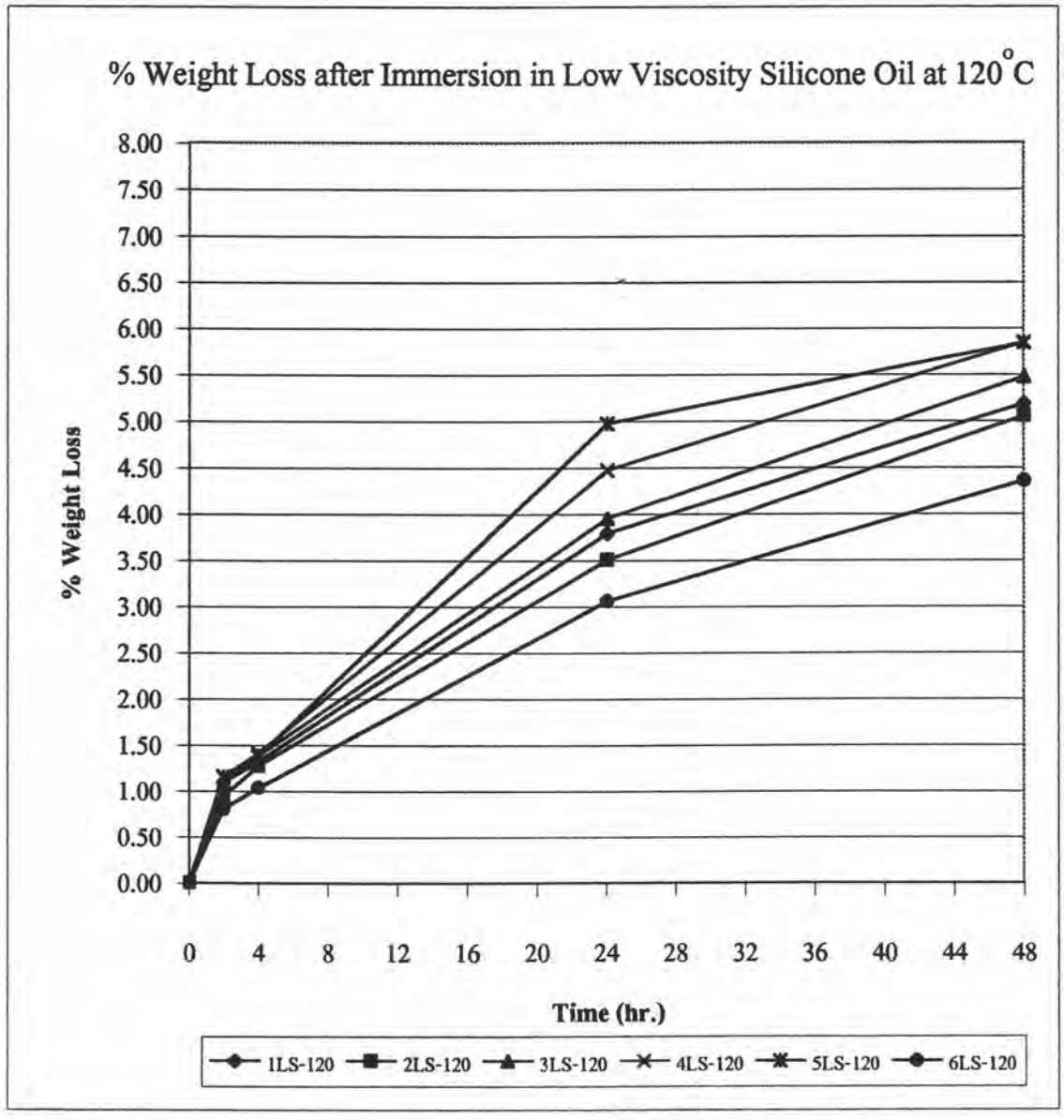


Table 16B: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 120°C for 2 hours.

Formulation	Sample Code No.	Immersion for 2 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1HS-120-02-11	20.5181	20.4048	0.1133	0.5522	0.5541	0.0181
	1HS-120-02-12	18.8288	18.7209	0.1079	0.5731		
	1HS-120-02-13	20.2240	20.1154	0.1086	0.5370		
2	2HS-120-02-11	20.5635	20.4530	0.1105	0.5374	0.5147	0.0196
	2HS-120-02-12	20.3856	20.2832	0.1024	0.5023		
	2HS-120-02-13	20.3160	20.2135	0.1025	0.5045		
3	3HS-120-02-11	20.2563	20.1361	0.1202	0.5934	0.5923	0.0088
	3HS-120-02-12	19.7950	19.6796	0.1154	0.5830		
	3HS-120-02-13	18.9206	18.8070	0.1136	0.6004		
4	4HS-120-02-11	19.6584	19.5198	0.1386	0.7050	0.7078	0.0162
	4HS-120-02-12	19.8211	19.6837	0.1374	0.6932		
	4HS-120-02-13	19.5799	19.4379	0.1420	0.7252		
5	5HS-120-02-11	19.9070	19.7642	0.1428	0.7173	0.7444	0.0349
	5HS-120-02-12	19.6083	19.4546	0.1537	0.7839		
	5HS-120-02-13	20.0799	19.9329	0.1470	0.7321		
6	6HS-120-02-11	23.2087	23.1072	0.1015	0.4373	0.4397	0.0085
	6HS-120-02-12	22.5992	22.4977	0.1015	0.4491		
	6HS-120-02-13	22.1208	22.0251	0.0957	0.4326		

Table 17B: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 120^{0}C for 4 hours.

Formulation	Sample Code No.	Immersion for 4 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1HS-120-04-11	20.5181	20.3379	0.1802	0.8782			
	1HS-120-04-12	18.8288	18.6629	0.1659	0.8811			
	1HS-120-04-13	20.1440	19.9637	0.1803	0.8951	0.8848	0.0090	0.8536
	1HS-120-04-21	19.6770	19.5122	0.1648	0.8375			
	1HS-120-04-22	19.9858	19.8184	0.1674	0.8376			
	1HS-120-04-23	19.5486	19.3938	0.1548	0.7919	0.8223	0.0264	
2	2HS-120-04-11	20.5636	20.3939	0.1697	0.8252			
	2HS-120-04-12	20.3856	20.2277	0.1579	0.7746			
	2HS-120-04-13	20.2460	20.0757	0.1703	0.8412	0.8137	0.0348	0.8026
	2HS-120-04-21	20.4594	20.3005	0.1589	0.7767			
	2HS-120-04-22	19.8595	19.7064	0.1531	0.7711			
	2HS-120-04-23	19.5688	19.4070	0.1618	0.8268	0.7915	0.0307	
3	3HS-120-04-11	20.2563	20.0575	0.1988	0.9814			
	3HS-120-04-12	19.7950	19.5992	0.1958	0.9891			
	3HS-120-04-13	18.8506	18.6483	0.2023	1.0732	1.0146	0.0509	0.9653
	3HS-120-04-21	19.3495	19.1778	0.1717	0.8874			
	3HS-120-04-22	19.1850	19.0025	0.1825	0.9513			
	3HS-120-04-23	19.4787	19.3016	0.1771	0.9092	0.9159	0.0325	
4	4HS-120-04-11	19.6584	19.4325	0.2259	1.1491			
	4HS-120-04-12	19.8211	19.5997	0.2214	1.1170			
	4HS-120-04-13	19.5099	19.2737	0.2362	1.2107	1.1589	0.0476	1.1094
	4HS-120-04-21	20.0535	19.8473	0.2062	1.0282			
	4HS-120-04-22	19.4980	19.2965	0.2015	1.0334			
	4HS-120-04-23	19.4556	19.2381	0.2175	1.1179	1.0599	0.0503	
5	5HS-120-04-11	19.9070	19.6929	0.2141	1.0755			
	5HS-120-04-12	19.6083	19.3967	0.2116	1.0791			
	5HS-120-04-13	19.9899	19.7390	0.2509	1.2551	1.1366	0.1027	1.1243
	5HS-120-04-21	20.2369	20.0178	0.2191	1.0827			
	5HS-120-04-22	20.6011	20.3784	0.2227	1.0810			
	5HS-120-04-23	19.8264	19.5940	0.2324	1.1722	1.1120	0.0522	
6	6HS-120-04-11	20.2087	20.0630	0.1457	0.7210			
	6HS-120-04-12	20.5999	20.4319	0.1680	0.8155			
	6HS-120-04-13	22.0408	21.8655	0.1753	0.7953	0.7773	0.0498	0.7552
	6HS-120-04-21	22.3405	22.1784	0.1621	0.7256			
	6HS-120-04-22	22.8458	22.6973	0.1485	0.6500			
	6HS-120-04-23	20.2840	20.1169	0.1671	0.8238	0.7331	0.0871	

Table 18B: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 120°C for 24 hours.

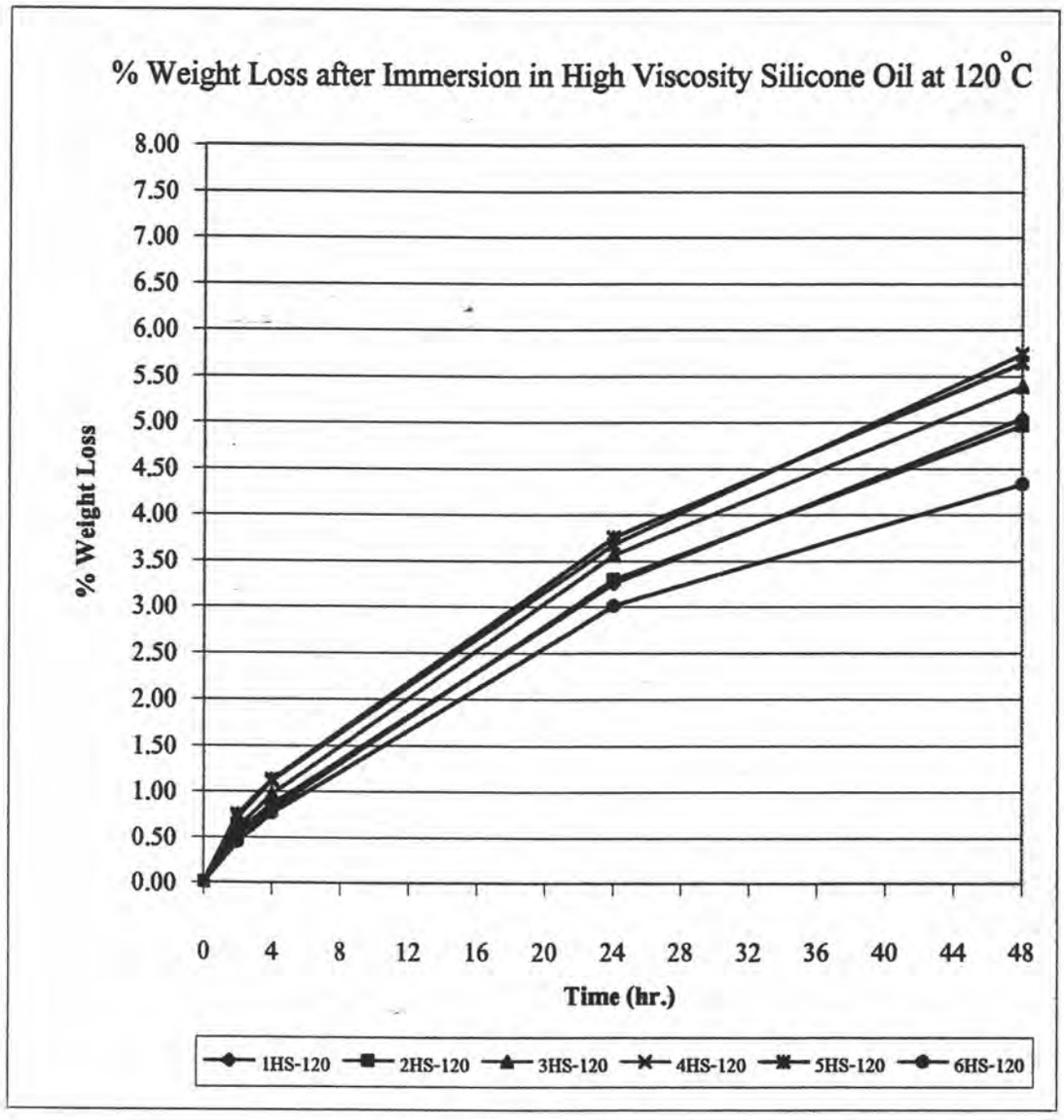
Formulation	Sample Code No.	Immersion for 24 hr.					
		Before	After	ΔW	%Loss	AVG.	SD.
1	1HS-120-24-11	19.7145	19.0502	0.6643	3.3696	3.2453	0.1277
	1HS-120-24-12	19.4542	18.8216	0.6326	3.2517		
	1HS-120-24-13	20.1479	19.5204	0.6275	3.1145		
2	2HS-120-24-11	19.1842	18.5209	0.6633	3.4575	3.2922	0.1435
	2HS-120-24-12	18.9884	18.3773	0.6111	3.2183		
	2HS-120-24-13	19.3863	18.7658	0.6205	3.2007		
3	3HS-120-24-11	19.6816	18.9780	0.7036	3.5749	3.5594	0.0455
	3HS-120-24-12	19.6397	18.9507	0.6890	3.5082		
	3HS-120-24-13	18.7946	18.1189	0.6757	3.5952		
4	4HS-120-24-11	19.2920	18.5800	0.7120	3.6906	3.6772	0.0272
	4HS-120-24-12	20.0504	19.3194	0.7310	3.6458		
	4HS-120-24-13	20.0051	19.2659	0.7392	3.6951		
5	5HS-120-24-11	20.0360	19.3212	0.7148	3.5676	3.7486	0.1620
	5HS-120-24-12	19.7709	19.0038	0.7671	3.8799		
	5HS-120-24-13	19.6536	18.9071	0.7465	3.7983		
6	6HS-120-24-11	22.9056	22.2046	0.7010	3.0604	3.0047	0.0487
	6HS-120-24-12	22.9410	22.2566	0.6844	2.9833		
	6HS-120-24-13	22.7851	22.1083	0.6768	2.9704		

Table 19B: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 120°C for 48 hours.

Formulation	Sample Code No.	Immersion for 48 hr.						AVG.
		Before	After	ΔW	%Loss	avg.	SD.	
1	1HS-120-48-11	20.3945	19.3775	1.0170	4.9866	5.0591	0.0885	5.0383
	1HS-120-48-12	19.4542	18.4508	1.0034	5.1578			
	1HS-120-48-13	20.1479	19.1339	1.0140	5.0328			
	1HS-120-48-21	20.0557	19.0555	1.0002	4.9871	5.0175	0.0594	
	1HS-120-48-22	19.8289	18.8204	1.0085	5.0860			
	1HS-120-48-23	19.8475	18.8592	0.9883	4.9795			
2	2HS-120-48-11	19.8642	18.8818	0.9824	4.9456	4.9871	0.0965	4.9626
	2HS-120-48-12	19.9884	19.0053	0.9831	4.9184			
	2HS-120-48-13	19.3863	18.3981	0.9882	5.0974			
	2HS-120-48-21	20.2115	19.2421	0.9694	4.7963	4.9380	0.2132	
	2HS-120-48-22	19.9215	18.9584	0.9631	4.8345			
	2HS-120-48-23	19.2564	18.2583	0.9981	5.1832			
3	3HS-120-48-11	20.3816	19.3362	1.0454	5.1291	5.3365	0.2099	5.3839
	3HS-120-48-12	19.6397	18.5926	1.0471	5.3315			
	3HS-120-48-13	18.7946	17.7517	1.0429	5.5489			
	3HS-120-48-21	19.3930	18.3501	1.0429	5.3777	5.4312	0.1817	
	3HS-120-48-22	19.7305	18.6883	1.0422	5.2822			
	3HS-120-48-23	19.3232	18.2346	1.0886	5.6336			
4	4HS-120-48-11	20.0920	18.9386	1.1534	5.7406	5.7459	0.0274	5.7398
	4HS-120-48-12	20.0504	18.9032	1.1472	5.7216			
	4HS-120-48-13	20.0051	18.8497	1.1554	5.7755			
	4HS-120-48-21	19.9000	18.7851	1.1149	5.6025	5.7336	0.2940	
	4HS-120-48-22	20.3110	19.1882	1.1228	5.5280			
	4HS-120-48-23	19.5673	18.3795	1.1878	6.0703			
5	5HS-120-48-11	20.7875	19.6710	1.1165	5.3710	5.4764	0.1525	5.6428
	5HS-120-48-12	19.7709	18.6536	1.1173	5.6512			
	5HS-120-48-13	20.6646	19.5473	1.1173	5.4068			
	5HS-120-48-21	21.1717	19.9726	1.1991	5.6637	5.8091	0.2776	
	5HS-120-48-22	21.4979	20.2866	1.2113	5.6345			
	5HS-120-48-23	19.5930	18.3921	1.2009	6.1292			
6	6HS-120-48-11	20.4531	19.5923	0.8608	4.2087	4.2779	0.0684	4.3300
	6HS-120-48-12	22.9410	21.9592	0.9818	4.2797			
	6HS-120-48-13	22.7851	21.7950	0.9901	4.3454			
	6HS-120-48-21	22.0985	21.1737	0.9248	4.1849	4.3820	0.3757	
	6HS-120-48-22	22.3691	21.4417	0.9274	4.1459			
	6HS-120-48-23	20.1630	19.1921	0.9709	4.8153			

Table 20B: Average of %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 120°C.

Time (hr.)	Formulation 1 1HS-120	Formulation 2 2HS-120	Formulation 3 3HS-120	Formulation 4 4HS-120	Formulation 5 5HS-120	Formulation 6 6HS-120
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.5541	0.5147	0.5923	0.7078	0.7444	0.4397
4	0.8536	0.8026	0.9653	1.1094	1.1243	0.7552
24	3.2453	3.2922	3.5594	3.6772	3.7486	3.0047
48	5.0383	4.9626	5.3839	5.7398	5.6428	4.3300



APPENDIX C

Table 1C: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Motor Oil at 70°C and 120°C

Time	Formulation						Formulation					
	1	2	3	4	5	6	1	2	3	4	5	6
(hr.)	1LM-70	2LM-70	3LM-70	4LM-70	5LM-70	6LM-70	1LM-120	2LM-120	3LM-120	4LM-120	5LM-120	6LM-120
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.1422	0.1281	0.1535	0.1654	0.1671	0.0672	0.7874	0.7720	0.8093	0.7752	1.0604	0.5649
4	0.3063	0.3053	0.3450	0.3791	0.4457	0.1815	1.2228	1.1899	1.2924	1.3330	1.3513	1.1236
24	0.5883	0.5871	0.6698	0.6839	0.7176	0.3469	3.2987	3.5314	3.5221	3.9554	4.4178	3.0874
48	1.0407	1.0312	1.1782	1.2916	1.3464	0.5882	5.3487	5.8649	5.8333	6.5664	7.5182	5.2479

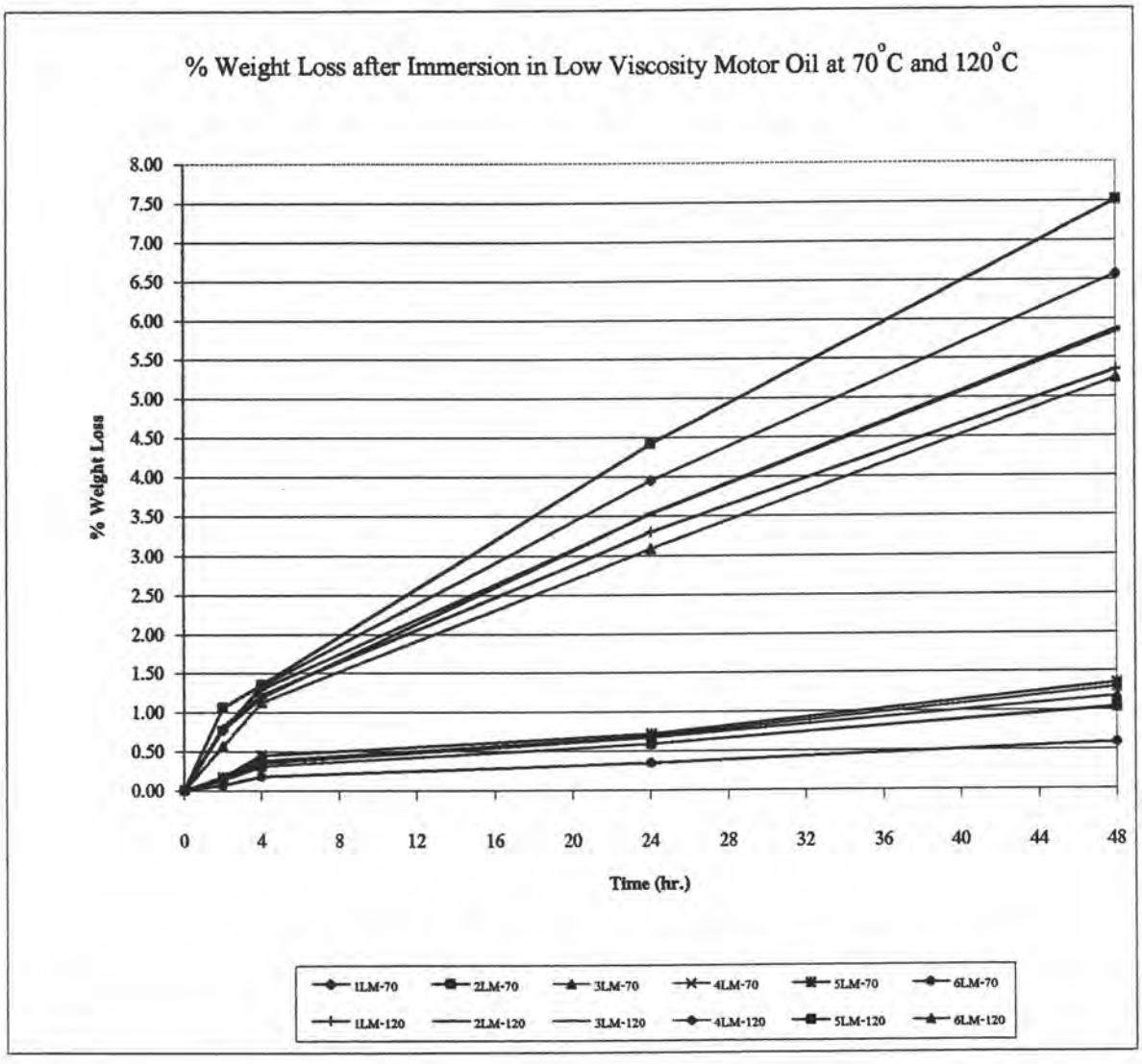


Table 2C: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Motor Oil at 70°C and 120°C.

Time	Formulation						Formulation					
	1	2	3	4	5	6	1	2	3	4	5	6
(hr.)	1HM-70	2HM-70	3HM-70	4HM-70	5HM-70	6HM-70	1HM-120	2HM-120	3HM-120	4HM-120	5HM-120	6HM-120
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.1507	0.1505	0.1587	0.1610	0.1663	0.0673	1.1089	1.0705	1.1688	1.0775	1.1997	0.8413
4	0.3250	0.3209	0.3755	0.4125	0.4193	0.1409	1.4236	1.3941	1.4572	1.4274	1.5393	1.1879
24	0.6768	0.6750	0.6818	0.7114	0.7271	0.3532	3.8335	3.8255	3.9457	3.9015	4.9350	2.8909
48	1.0884	1.1007	1.1825	1.3077	1.3319	0.5245	5.9504	5.7277	5.8476	6.4497	7.1218	5.0493

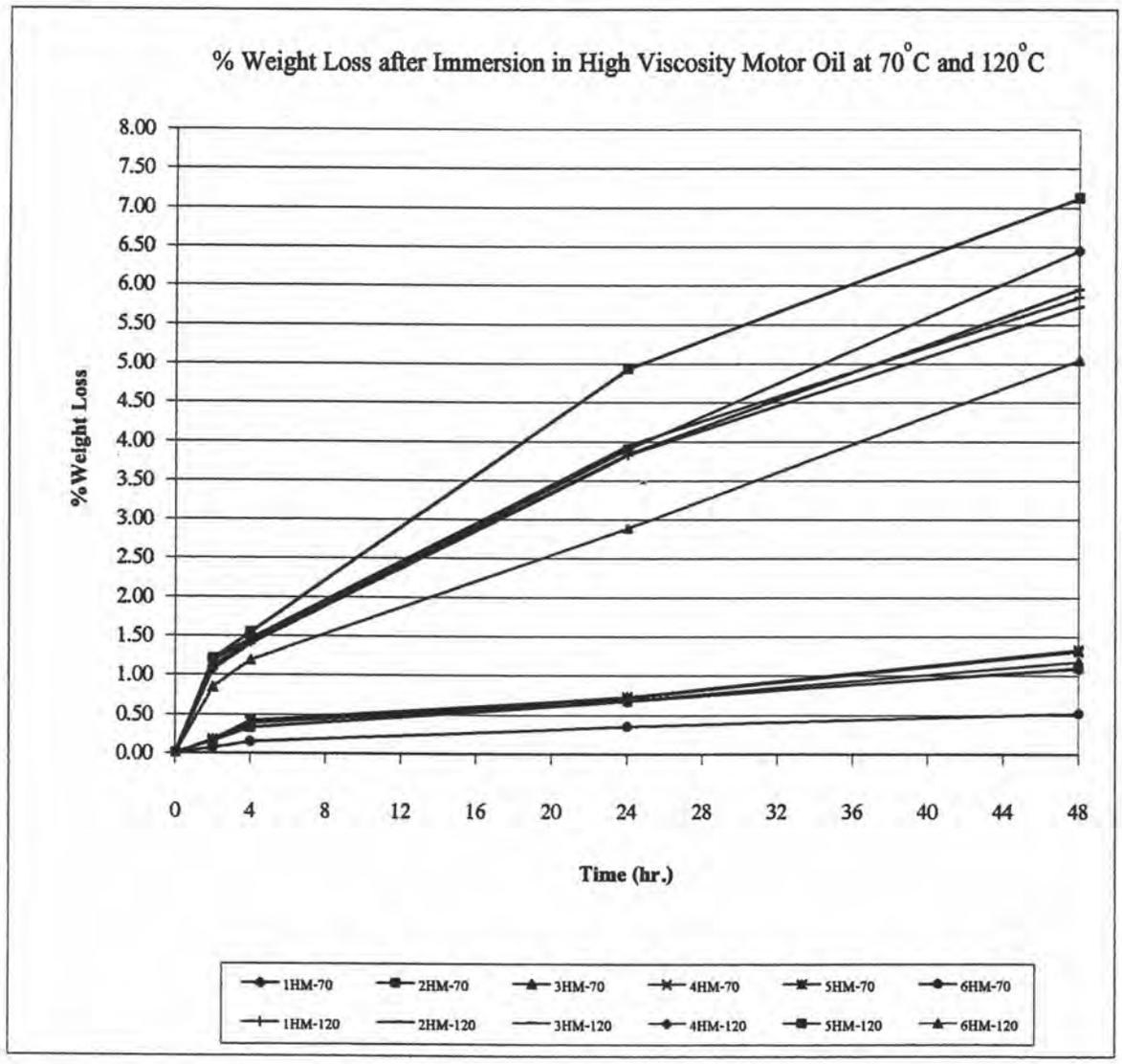


Table 3C: %Weight Loss of Specimens of Formulation 1~6 in Low Viscosity Silicone Oil at 70°C and 120°C

Time	Formulation						Formulation					
	1	2	3	4	5	6	1	2	3	4	5	6
(hr.)	1LS-70	2LS-70	3LS-70	4LS-70	5LS-70	6LS-70	1LS-120	2LS-120	3LS-120	4LS-120	5LS-120	6LS-120
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.1841	0.1826	0.1974	0.1860	0.2238	0.0728	1.0906	0.9433	1.0947	1.1602	1.1523	0.7996
4	0.3930	0.3858	0.4224	0.4739	0.5059	0.1887	1.3170	1.2705	1.3791	1.4049	1.3787	1.0366
24	0.8453	0.7816	0.8797	0.8264	0.9334	0.4920	3.7937	3.5069	3.9531	4.4730	4.9713	3.0610
48	1.1377	1.1632	1.2525	1.3129	1.4341	0.6408	5.1894	5.0503	5.4714	5.8500	5.8409	4.3619

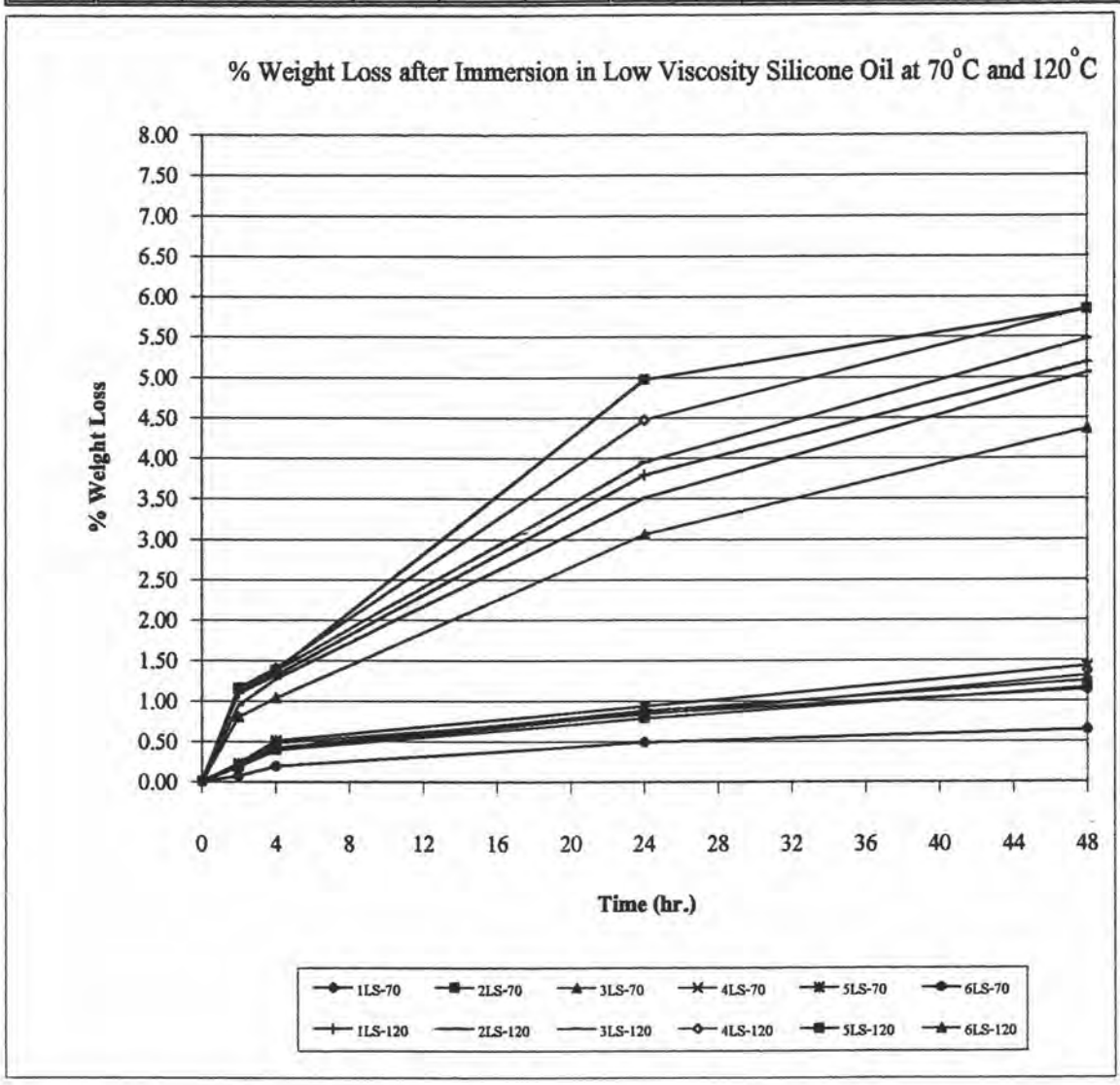
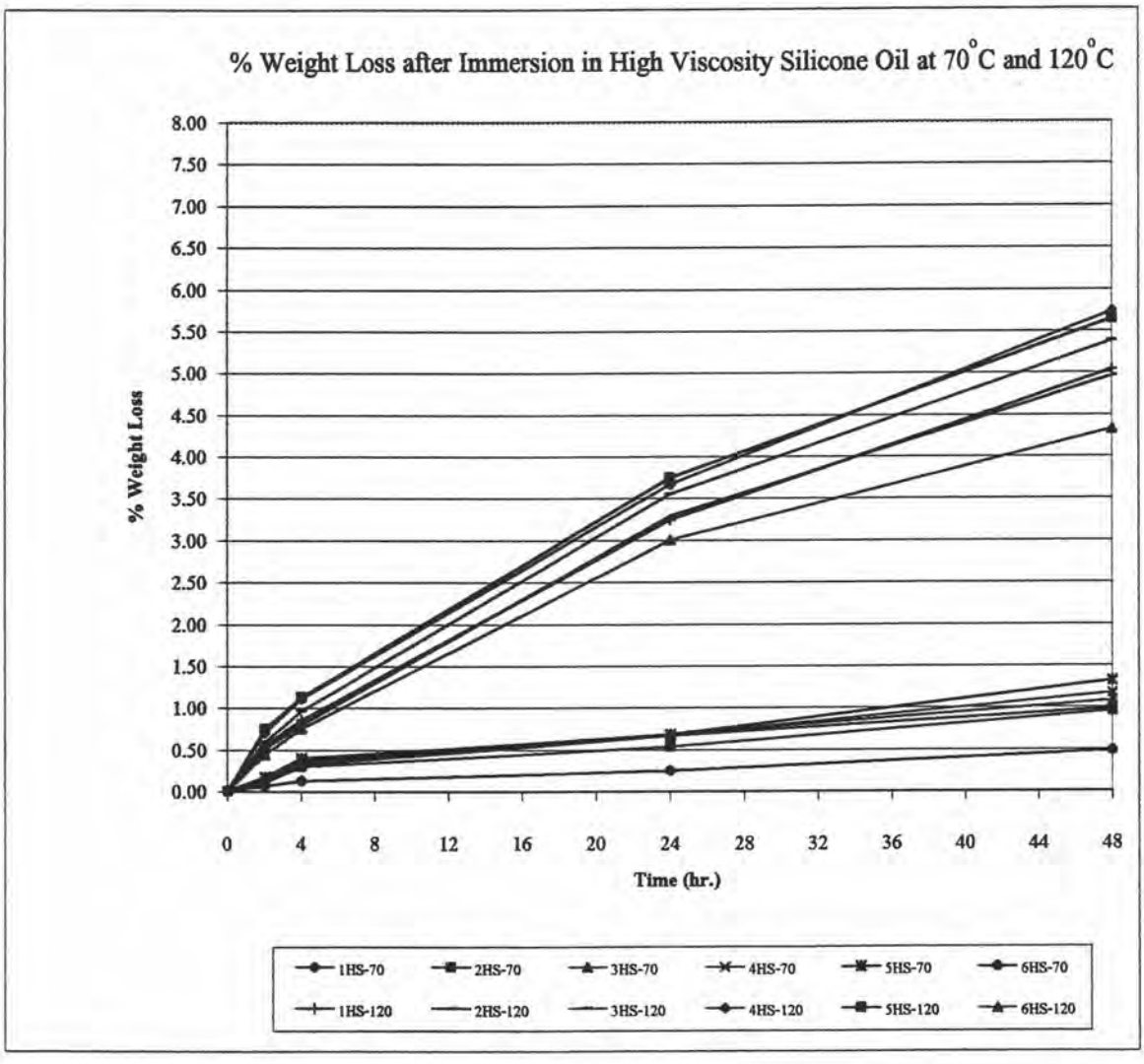


Table 4C: %Weight Loss of Specimens of Formulation 1~6 in High Viscosity Silicone Oil at 70°C and 120°C

Time	Formulation						Formulation					
	1	2	3	4	5	6	1	2	3	4	5	6
(hr.)	1HS-70	2HS-70	3HS-70	4HS-70	5HS-70	6HS-70	1HS-120	2HS-120	3HS-120	4HS-120	5HS-120	6HS-120
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.1534	0.1113	0.1655	0.1714	0.1735	0.0585	0.5541	0.5147	0.5923	0.7078	0.7444	0.4397
4	0.3219	0.2953	0.3409	0.3628	0.3981	0.1216	0.8536	0.8026	0.9653	1.1094	1.1243	0.7552
24	0.6667	0.5336	0.6806	0.6789	0.6843	0.2514	3.2453	3.2922	3.5594	3.6772	3.7486	3.0047
48	0.9874	0.9576	1.0803	1.1701	1.3197	0.4812	5.0383	4.9626	5.3839	5.7398	5.6428	4.3300



APPENDIX D

Table 1D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in Low Viscosity Motor Oil at 70°C for 4 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 4 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1LM-70-04-11	80.1	80.7	80.9	80.5	0.34	81.1	82.1	81.5	81.7	0.54
	1LM-70-04-12	80.6	80.5	80.6			81.3	81.4	81.3		
	1LM-70-04-13	80.4	80.8	81.0			81.6	82.1	82.8		
	1LM-70-04-21	80.0	80.9	81.0			81.0	81.4	81.2		
	1LM-70-04-22	80.2	80.0	80.4			82.6	81.4	81.6		
	1LM-70-04-23	80.9	80.2	80.3			82.4	82.2	81.4		
2	2LM-70-04-11	81.0	80.8	81.2	80.8	0.52	81.0	81.2	82.5	81.6	0.55
	2LM-70-04-12	81.0	81.4	81.1			81.4	82.0	81.2		
	2LM-70-04-13	80.0	80.7	80.4			81.8	82.0	81.1		
	2LM-70-04-21	80.0	81.0	81.0			82.0	82.4	81.9		
	2LM-70-04-22	81.1	80.1	80.1			81.0	81.0	81.1		
	2LM-70-04-23	81.2	81.7	80.2			82.6	81.4	81.4		
3	3LM-70-04-11	80.8	80.9	80.7	80.9	0.48	81.9	81.6	82.5	81.8	0.44
	3LM-70-04-12	81.5	81.4	80.7			81.6	81.6	81.5		
	3LM-70-04-13	80.9	81.4	81.0			82.4	81.2	81.5		
	3LM-70-04-21	81.0	80.4	80.1			82.3	82.1	82.0		
	3LM-70-04-22	80.6	81.3	81.3			82.3	82.1	81.2		
	3LM-70-04-23	80.3	80.0	81.6			81.5	81.1	82.0		
4	4LM-70-04-11	80.0	80.8	81.2	80.6	0.42	82.0	81.2	81.5	81.7	0.47
	4LM-70-04-12	81.0	81.4	81.1			82.4	81.0	81.2		
	4LM-70-04-13	81.0	80.7	80.4			81.8	82.0	81.1		
	4LM-70-04-21	80.0	80.6	80.6			81.4	82.1	81.6		
	4LM-70-04-22	80.7	80.2	80.4			82.0	81.2	81.7		
	4LM-70-04-23	80.5	80.3	80.1			82.3	82.1	82.5		
5	5LM-70-04-11	81.0	80.7	80.7	80.6	0.54	81.4	82.7	82.8	81.9	0.56
	5LM-70-04-12	80.7	81.8	81.8			81.7	81.2	82.0		
	5LM-70-04-13	80.4	80.8	80.8			81.1	81.9	81.4		
	5LM-70-04-21	80.2	80.0	80.0			81.7	82.7	82.0		
	5LM-70-04-22	80.2	80.7	80.2			82.1	81.0	81.9		
	5LM-70-04-23	80.0	80.2	80.4			81.5	82.6	81.6		
6	6LM-70-04-11	91.4	91.2	91.7	91.1	0.50	91.2	91.0	91.1	91.9	0.68
	6LM-70-04-12	90.0	90.8	90.7			92.9	91.0	91.0		
	6LM-70-04-13	91.7	91.2	91.2			92.8	91.1	91.8		
	6LM-70-04-21	91.0	91.4	91.1			92.3	92.1	92.0		
	6LM-70-04-22	91.6	91.3	91.3			92.3	92.1	92.2		
	6LM-70-04-23	91.3	90.0	91.6			92.5	92.1	92.9		

Table 2D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in Low Viscosity Motor Oil at 70°C for 48 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 48 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1LM-70-48-11	80.9	81.1	81.6	80.7	0.49	83.7	83.9	83.8	83.8	0.20
	1LM-70-48-12	80.2	80.0	80.2			83.8	83.7	83.6		
	1LM-70-48-13	80.6	80.1	80.4			84.0	83.9	83.4		
	1LM-70-48-21	80.3	81.3	81.1			83.6	83.4	83.9		
	1LM-70-48-22	80.3	80.6	80.7			83.5	84.1	83.8		
	1LM-70-48-23	81.5	80.5	80.9			83.7	83.7	84.0		
2	2LM-70-48-11	80.3	80.9	80.5	81.2	0.54	84.3	84.4	84.2	84.5	0.22
	2LM-70-48-12	81.6	80.8	81.6			84.6	84.5	84.5		
	2LM-70-48-13	81.9	81.9	80.1			84.1	84.6	84.9		
	2LM-70-48-21	81.8	81.0	81.7			84.5	84.1	84.3		
	2LM-70-48-22	81.2	81.2	81.4			84.4	84.7	84.4		
	2LM-70-48-23	81.7	81.2	81.2			84.7	84.6	84.7		
3	3LM-70-48-11	80.9	81.8	81.5	81.2	0.57	84.7	84.7	85.0	84.8	0.21
	3LM-70-48-12	81.4	80.0	81.3			84.9	85.1	85.1		
	3LM-70-48-13	81.6	80.0	81.1			84.6	85.2	84.9		
	3LM-70-48-21	81.8	81.1	82.2			84.9	84.6	84.7		
	3LM-70-48-22	81.1	80.8	81.4			85.0	84.8	84.8		
	3LM-70-48-23	81.1	81.2	81.8			84.5	84.7	84.5		
4	4LM-70-48-11	80.3	80.9	80.5	80.6	0.37	84.9	85.1	84.9	84.9	0.21
	4LM-70-48-12	80.6	80.8	80.6			84.7	85.3	84.7		
	4LM-70-48-13	80.9	80.9	81.1			85.0	84.7	84.9		
	4LM-70-48-21	80.2	81.6	80.3			84.9	84.6	85.1		
	4LM-70-48-22	80.2	80.3	80.3			84.6	84.7	85.0		
	4LM-70-48-23	80.4	80.5	80.3			85.1	84.6	84.8		
5	5LM-70-48-11	80.0	81.2	81.2	80.9	0.53	84.3	84.2	84.1	84.3	0.23
	5LM-70-48-12	81.6	81.0	80.0			84.0	84.7	84.5		
	5LM-70-48-13	81.4	80.9	81.5			83.9	84.5	84.3		
	5LM-70-48-21	80.2	80.6	80.3			84.5	84.1	84.4		
	5LM-70-48-22	80.7	81.1	80.9			84.3	83.8	84.3		
	5LM-70-48-23	80.9	80.5	81.7			84.4	84.5	84.2		
6	6LM-70-48-11	91.5	90.8	90.9	91.3	0.51	95.3	95.9	96.4	95.6	0.45
	6LM-70-48-12	91.7	91.6	91.7			95.1	96.0	95.5		
	6LM-70-48-13	90.0	91.3	91.7			95.0	95.0	95.2		
	6LM-70-48-21	91.8	91.1	92.2			95.9	95.7	96.5		
	6LM-70-48-22	91.1	90.8	91.4			95.7	95.5	95.7		
	6LM-70-48-23	91.1	91.2	90.8			96.0	95.2	95.9		

Table 3D : Hardness measurement of Specimens of Formulation 1~6 after Immersion in High Viscosity Motor Oil at 70°C for 4 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 4 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1HM-70-04-11	80.8	80.3	80.3	80.6	0.43	82.0	81.5	81.4	81.5	0.35
	1HM-70-04-12	80.3	80.3	80.5			81.9	81.0	81.2		
	1HM-70-04-13	81.0	80.9	81.3			81.7	81.5	81.9		
	1HM-70-04-21	80.6	80.8	80.9			81.0	81.9	81.1		
	1HM-70-04-22	80.0	80.0	80.0			81.6	81.6	81.8		
	1HM-70-04-23	80.7	81.3	81.2			81.1	81.0	81.4		
2	2HM-70-04-11	81.9	81.1	80.5	81.3	0.49	82.1	81.8	82.5	82.1	0.60
	2HM-70-04-12	80.3	81.2	81.3			82.6	83.4	82.7		
	2HM-70-04-13	81.9	81.2	81.7			82.9	82.2	82.7		
	2HM-70-04-21	80.4	81.1	81.9			82.3	81.4	81.7		
	2HM-70-04-22	81.1	81.7	81.4			81.7	81.4	81.8		
	2HM-70-04-23	81.5	81.4	81.2			81.2	81.7	81.8		
3	3HM-70-04-11	81.9	81.7	81.5	81.3	0.55	82.9	82.7	83.6	82.0	0.72
	3HM-70-04-12	81.4	81.6	81.7			82.5	81.9	83.1		
	3HM-70-04-13	81.4	81.3	82.4			82.5	81.9	82.1		
	3HM-70-04-21	81.3	81.4	81.5			81.3	81.2	81.1		
	3HM-70-04-22	80.8	80.5	80.6			81.0	81.9	81.8		
	3HM-70-04-23	80.6	80.5	80.6			81.9	81.7	81.6		
4	4HM-70-04-11	81.2	80.8	81.4	80.8	0.60	82.0	82.5	82.0	82.0	0.37
	4HM-70-04-12	81.7	81.4	81.2			81.5	82.0	82.7		
	4HM-70-04-13	81.8	80.1	81.0			82.2	82.3	82.6		
	4HM-70-04-21	80.0	80.5	80.4			81.7	81.8	81.7		
	4HM-70-04-22	80.7	80.2	80.0			81.7	81.8	81.7		
	4HM-70-04-23	80.0	80.4	80.9			81.8	81.6	81.5		
5	5HM-70-04-11	80.6	80.4	80.3	80.7	0.68	82.8	82.2	82.1	81.9	0.66
	5HM-70-04-12	81.2	81.5	81.7			82.9	83.2	82.4		
	5HM-70-04-13	81.7	81.2	82.0			82.4	82.2	81.5		
	5HM-70-04-21	80.0	80.4	80.0			81.2	81.9	81.9		
	5HM-70-04-22	80.8	80.0	80.0			81.3	81.1	81.0		
	5HM-70-04-23	80.1	80.2	80.4			81.6	81.1	81.8		
6	6HM-70-04-11	90.8	90.4	90.8	90.6	0.54	92.3	92.6	92.7	92.0	0.67
	6HM-70-04-12	91.9	90.5	91.3			92.5	92.6	92.4		
	6HM-70-04-13	90.5	90.6	91.5			92.9	92.1	93.0		
	6HM-70-04-21	90.6	90.0	90.8			91.3	91.6	91.0		
	6HM-70-04-22	90.4	90.0	90.0			91.9	91.1	91.1		
	6HM-70-04-23	90.4	90.1	90.0			91.8	91.1	92.1		

Table 4D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in High Viscosity Motor Oil at 70°C for 48 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 48 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1HM-70-48-11	80.1	80.8	80.3	81.1	0.63	84.5	84.9	84.7	84.6	0.31
	1HM-70-48-12	81.5	81.2	80.1			84.2	85.0	85.5		
	1HM-70-48-13	82.3	81.5	82.3			84.6	84.6	84.8		
	1HM-70-48-21	81.8	81.0	81.1			84.5	84.6	84.4		
	1HM-70-48-22	80.9	81.0	80.8			84.3	84.7	84.7		
	1HM-70-48-23	80.9	81.3	81.5			84.4	84.8	84.2		
2	2HM-70-48-11	81.1	81.1	81.5	81.4	0.36	86.3	85.8	86.1	85.6	0.41
	2HM-70-48-12	81.4	81.7	80.9			85.8	85.8	85.9		
	2HM-70-48-13	81.9	81.4	81.9			85.7	86.3	85.5		
	2HM-70-48-21	80.5	81.2	81.7			85.2	85.7	85.0		
	2HM-70-48-22	81.6	81.7	81.5			85.2	85.5	85.4		
	2HM-70-48-23	81.5	81.2	81.4			85.0	85.4	85.1		
3	3HM-70-48-11	81.5	82.0	81.9	81.3	0.64	85.0	85.1	85.6	85.0	0.67
	3HM-70-48-12	81.7	80.2	80.1			86.0	86.4	86.1		
	3HM-70-48-13	81.9	81.6	82.0			85.9	84.6	84.8		
	3HM-70-48-21	81.1	80.8	80.3			84.2	84.4	84.9		
	3HM-70-48-22	82.1	81.5	81.4			84.7	84.4	84.4		
	3HM-70-48-23	80.8	81.0	81.0			84.7	84.7	84.6		
4	4HM-70-48-11	81.8	81.9	81.1	81.1	0.63	84.6	85.6	84.4	84.0	0.68
	4HM-70-48-12	81.7	81.1	81.6			84.4	84.8	84.7		
	4HM-70-48-13	81.3	81.9	80.5			84.3	84.6	84.1		
	4HM-70-48-21	80.2	80.6	80.1			83.8	83.5	83.8		
	4HM-70-48-22	81.5	81.7	81.5			83.5	83.2	83.4		
	4HM-70-48-23	81.2	80.0	80.9			83.0	83.3	83.7		
5	5HM-70-48-11	81.1	81.4	81.1	80.7	0.56	85.0	84.9	84.7	84.0	0.70
	5HM-70-48-12	81.5	81.5	81.3			84.2	84.4	84.7		
	5HM-70-48-13	80.9	81.1	81.0			84.6	84.0	84.8		
	5HM-70-48-21	80.2	80.2	80.7			83.1	83.3	83.3		
	5HM-70-48-22	80.6	80.0	80.0			83.1	83.5	83.9		
	5HM-70-48-23	80.0	80.3	80.0			83.5	83.0	83.5		
6	6HM-70-48-11	90.8	90.9	90.9	91.0	0.56	95.0	94.7	94.6	94.5	0.42
	6HM-70-48-12	90.6	90.4	91.8			94.9	95.0	95.1		
	6HM-70-48-13	91.3	91.4	91.8			94.6	95.4	94.0		
	6HM-70-48-21	90.8	90.6	90.9			94.0	94.3	94.0		
	6HM-70-48-22	90.0	91.7	91.9			94.6	94.5	94.0		
	6HM-70-48-23	91.6	90.7	90.5			94.2	94.4	94.4		

Table 5D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in Low Viscosity Silicone Oil at 70°C for 4 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 4 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1LS-70-04-11	80.1	80.4	80.2	80.5	0.26	81.7	81.6	81.4	81.6	0.26
	1LS-70-04-12	80.7	80.8	80.9			81.8	81.9	81.3		
	1LS-70-04-13	80.9	80.0	80.4			81.7	81.6	81.1		
	1LS-70-04-21	80.6	80.7	80.5			81.4	81.9	81.9		
	1LS-70-04-22	80.5	80.6	80.8			81.7	81.6	81.0		
	1LS-70-04-23	80.4	80.7	80.5			81.6	81.4	81.7		
2	2LS-70-04-11	81.0	81.0	81.1	81.3	0.27	81.8	81.2	81.9	81.7	0.29
	2LS-70-04-12	81.8	81.7	81.3			81.9	81.5	81.9		
	2LS-70-04-13	81.2	81.4	81.2			81.9	81.6	81.8		
	2LS-70-04-21	81.0	81.4	81.1			81.3	81.9	81.3		
	2LS-70-04-22	81.4	81.1	81.8			81.3	81.8	82.3		
	2LS-70-04-23	81.5	81.3	81.7			81.6	81.4	81.7		
3	3LS-70-04-11	80.2	80.7	80.7	80.8	0.33	82.6	82.9	82.3	82.6	0.21
	3LS-70-04-12	80.5	80.5	80.3			82.7	82.7	82.9		
	3LS-70-04-13	81.2	80.8	80.9			82.5	83.0	82.5		
	3LS-70-04-21	80.7	80.8	81.3			82.2	82.4	82.6		
	3LS-70-04-22	80.7	81.2	81.4			82.4	82.7	82.6		
	3LS-70-04-23	80.6	80.7	80.5			82.5	82.7	82.4		
4	4LS-70-04-11	80.4	80.1	80.1	80.5	0.31	81.5	81.0	81.5	81.6	0.26
	4LS-70-04-12	80.2	81.3	80.1			82.0	81.8	81.8		
	4LS-70-04-13	80.3	80.7	80.1			81.9	81.4	81.9		
	4LS-70-04-21	80.5	80.4	80.6			81.4	81.4	81.8		
	4LS-70-04-22	80.6	80.8	80.3			81.2	81.7	81.6		
	4LS-70-04-23	80.5	80.7	80.6			81.5	81.7	81.4		
5	5LS-70-04-11	80.0	80.0	80.0	80.3	0.31	81.7	81.7	81.3	81.4	0.35
	5LS-70-04-12	80.0	80.8	80.0			81.4	81.6	80.9		
	5LS-70-04-13	80.8	80.3	80.0			81.2	81.5	80.3		
	5LS-70-04-21	80.1	80.8	80.2			81.6	81.4	81.6		
	5LS-70-04-22	80.6	80.3	80.3			81.8	81.4	81.3		
	5LS-70-04-23	80.7	80.4	80.2			81.5	81.7	81.6		
6	6LS-70-04-11	90.0	90.1	90.2	90.2	0.28	92.4	92.3	92.0	92.4	0.28
	6LS-70-04-12	90.4	90.2	89.9			92.2	92.3	93.1		
	6LS-70-04-13	90.0	90.3	90.9			92.4	92.0	92.5		
	6LS-70-04-21	90.4	89.8	90.1			92.5	92.2	92.7		
	6LS-70-04-22	90.0	90.5	89.8			92.7	92.4	92.1		
	6LS-70-04-23	90.1	90.3	89.8			92.5	92.7	92.3		

Table 6D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in Low Viscosity Silicone Oil at 70°C for 48 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 48 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1LS-70-48-11	80.6	80.9	80.6	80.5	0.25	83.5	83.4	83.4	83.4	0.28
	1LS-70-48-12	80.8	80.1	80.1			83.6	83.9	83.3		
	1LS-70-48-13	80.6	80.6	80.4			83.6	83.0	83.9		
	1LS-70-48-21	80.6	80.2	80.4			83.1	83.2	83.6		
	1LS-70-48-22	80.6	80.0	80.3			83.1	83.1	83.0		
	1LS-70-48-23	80.4	80.7	80.5			83.4	83.7	83.5		
2	2LS-70-48-11	81.4	81.3	81.0	81.3	0.21	83.7	84.4	84.5	84.3	0.28
	2LS-70-48-12	81.6	81.2	81.1			84.2	84.6	84.4		
	2LS-70-48-13	81.1	81.5	81.1			84.6	84.2	83.9		
	2LS-70-48-21	81.2	81.6	81.0			83.9	84.2	84.4		
	2LS-70-48-22	81.3	81.1	81.5			84.2	84.6	84.2		
	2LS-70-48-23	81.5	81.4	81.6			84.6	84.7	84.5		
3	3LS-70-48-11	81.5	81.7	82.1	81.6	0.32	82.5	82.8	83.0	83.1	0.31
	3LS-70-48-12	81.7	80.9	81.9			82.7	83.2	83.8		
	3LS-70-48-13	81.8	81.4	81.9			83.1	83.4	83.2		
	3LS-70-48-21	81.1	81.2	81.9			82.9	83.2	83.5		
	3LS-70-48-22	81.3	81.8	81.7			82.9	83.2	83.4		
	3LS-70-48-23	81.7	81.5	81.7			83.1	83.0	83.4		
4	4LS-70-48-11	80.2	80.7	80.7	80.6	0.22	82.8	83.4	83.0	83.3	0.30
	4LS-70-48-12	80.2	80.8	80.6			82.9	83.7	83.4		
	4LS-70-48-13	80.4	80.7	80.4			83.5	83.5	83.3		
	4LS-70-48-21	80.7	80.6	80.6			82.9	83.7	83.5		
	4LS-70-48-22	80.4	80.3	80.9			83.0	83.7	83.6		
	4LS-70-48-23	80.5	80.9	80.7			83.4	83.5	83.1		
5	5LS-70-48-11	80.9	80.9	80.9	80.7	0.27	83.6	83.7	83.5	83.5	0.30
	5LS-70-48-12	80.7	80.2	80.9			83.5	83.2	83.9		
	5LS-70-48-13	81.0	80.7	80.8			83.2	83.8	83.6		
	5LS-70-48-21	80.9	80.6	80.7			82.7	83.2	83.5		
	5LS-70-48-22	80.9	80.1	80.3			83.5	83.2	83.7		
	5LS-70-48-23	80.8	81.0	80.7			83.6	83.7	83.8		
6	6LS-70-48-11	89.7	89.5	89.7	89.8	0.36	94.4	94.7	94.5	94.4	0.26
	6LS-70-48-12	90.1	90.1	89.8			94.0	94.6	94.6		
	6LS-70-48-13	89.2	90.9	89.9			94.4	94.4	94.7		
	6LS-70-48-21	89.4	89.5	89.8			94.7	94.5	94.8		
	6LS-70-48-22	89.5	89.7	89.8			94.0	94.0	94.7		
	6LS-70-48-23	90.0	89.8	89.8			94.3	94.5	94.1		

Table 7D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in High Viscosity Silicone Oil at 70°C for 4 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 4 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1HS-70-04-11	80.0	80.0	80.3	80.4	0.29	81.0	81.1	81.0	81.0	0.23
	1HS-70-04-12	80.0	80.2	80.7			81.1	81.3	80.8		
	1HS-70-04-13	80.6	80.7	80.4			81.3	80.5	80.7		
	1HS-70-04-21	80.4	80.2	80.6			81.2	81.4	80.8		
	1HS-70-04-22	80.8	80.9	80.8			81.3	81.0	81.0		
	1HS-70-04-23	80.5	80.5	80.4			81.0	81.2	81.1		
2	2HS-70-04-11	81.3	81.6	81.4	81.5	0.26	81.3	81.8	81.1	81.6	0.24
	2HS-70-04-12	82.0	81.9	81.6			81.6	81.2	81.8		
	2HS-70-04-13	81.8	81.7	81.4			81.6	81.4	81.8		
	2HS-70-04-21	81.0	81.1	81.4			81.7	81.4	81.5		
	2HS-70-04-22	81.7	81.3	81.6			81.5	81.9	81.3		
	2HS-70-04-23	81.6	81.6	81.5			81.7	81.8	81.8		
3	3HS-70-04-11	81.6	81.7	81.9	81.5	0.29	81.7	81.4	81.7	81.7	0.27
	3HS-70-04-12	81.4	81.6	81.7			81.7	82.1	81.4		
	3HS-70-04-13	81.3	81.9	81.5			81.6	81.9	82.0		
	3HS-70-04-21	80.7	81.5	81.3			81.4	81.4	82.1		
	3HS-70-04-22	81.5	81.3	81.1			81.5	81.7	82.3		
	3HS-70-04-23	81.6	81.6	81.7			81.8	81.9	81.8		
4	4HS-70-04-11	80.5	80.7	80.5	80.4	0.27	81.7	81.5	81.2	81.5	0.23
	4HS-70-04-12	81.1	80.4	80.8			81.9	81.9	81.2		
	4HS-70-04-13	80.5	80.3	80.6			81.4	81.8	81.6		
	4HS-70-04-21	80.1	80.1	80.1			81.4	81.6	81.3		
	4HS-70-04-22	80.1	80.6	80.2			81.1	81.5	81.4		
	4HS-70-04-23	80.5	80.4	80.4			81.5	81.5	81.6		
5	5HS-70-04-11	80.7	80.9	80.5	80.5	0.26	81.3	81.4	81.5	81.4	0.24
	5HS-70-04-12	80.6	80.4	80.8			81.2	80.7	81.5		
	5HS-70-04-13	80.4	80.7	80.0			81.3	81.7	81.4		
	5HS-70-04-21	80.4	80.4	80.5			81.4	81.5	81.4		
	5HS-70-04-22	80.8	80.0	80.9			81.2	81.9	81.5		
	5HS-70-04-23	80.5	80.5	80.4			81.4	81.5	81.5		
6	6HS-70-04-11	89.7	89.7	90.2	89.9	0.27	93.8	93.3	93.5	93.6	0.20
	6HS-70-04-12	89.6	90.0	89.8			93.7	93.2	93.9		
	6HS-70-04-13	89.4	90.3	90.0			93.8	93.6	93.5		
	6HS-70-04-21	90.1	90.0	89.7			93.5	93.3	93.6		
	6HS-70-04-22	90.2	89.4	89.8			93.6	93.9	93.5		
	6HS-70-04-23	90.0	90.2	90.1			93.6	93.6	93.4		

Table 8D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in High Viscosity Silicone Oil at 70°C for 48 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 48 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1HS-70-48-11	80.7	80.0	80.1	80.4	0.32	83.0	83.5	83.8	83.5	0.27
	1HS-70-48-12	81.2	80.3	80.1			83.8	83.2	83.7		
	1HS-70-48-13	80.4	80.6	80.7			83.3	83.6	83.7		
	1HS-70-48-21	80.9	80.6	80.5			83.3	83.3	83.8		
	1HS-70-48-22	80.1	80.1	80.2			83.2	83.8	83.8		
	1HS-70-48-23	80.3	80.4	80.5			83.4	83.3	83.2		
2	2HS-70-48-11	81.4	81.6	81.9	81.5	0.27	84.4	84.4	84.2	84.5	0.23
	2HS-70-48-12	81.9	81.7	81.4			84.7	84.2	84.5		
	2HS-70-48-13	81.2	81.9	81.5			84.6	84.6	84.3		
	2HS-70-48-21	81.3	81.4	81.0			84.6	84.3	84.9		
	2HS-70-48-22	81.2	81.1	81.4			85.0	84.9	84.4		
	2HS-70-48-23	81.5	81.4	81.3			84.5	84.4	84.5		
3	3HS-70-48-11	81.4	81.5	81.5	81.3	0.27	83.6	83.9	83.9	83.7	0.31
	3HS-70-48-12	81.6	81.4	81.5			83.5	84.1	83.2		
	3HS-70-48-13	81.4	81.2	81.9			83.7	84.0	83.3		
	3HS-70-48-21	81.7	81.1	80.8			83.1	83.7	83.9		
	3HS-70-48-22	80.9	81.1	81.2			83.9	83.9	83.1		
	3HS-70-48-23	81.3	81.2	81.4			83.8	83.7	83.8		
4	4HS-70-48-11	80.5	80.7	80.5	80.6	0.26	83.0	82.8	83.0	83.2	0.36
	4HS-70-48-12	81.1	80.4	80.8			82.5	82.9	83.0		
	4HS-70-48-13	81.1	80.3	80.6			83.0	82.9	83.0		
	4HS-70-48-21	80.1	80.6	80.6			83.5	83.9	83.9		
	4HS-70-48-22	80.3	80.4	80.3			83.4	83.0	83.4		
	4HS-70-48-23	80.6	80.6	80.7			83.2	83.4	83.1		
5	5HS-70-48-11	80.7	80.4	80.4	80.6	0.30	83.6	83.2	82.8	83.4	0.32
	5HS-70-48-12	80.1	80.6	80.3			83.4	83.1	83.0		
	5HS-70-48-13	80.9	80.3	80.0			83.5	83.4	83.7		
	5HS-70-48-21	80.8	80.9	80.1			84.0	83.0	83.6		
	5HS-70-48-22	80.9	80.9	80.8			83.5	83.2	83.8		
	5HS-70-48-23	80.6	80.7	80.6			83.5	83.7	83.6		
6	6HS-70-48-11	90.2	90.1	90.1	90.2	0.29	94.8	94.2	94.8	94.4	0.29
	6HS-70-48-12	90.7	90.2	89.6			94.1	94.2	94.4		
	6HS-70-48-13	89.9	90.2	90.0			94.6	94.6	94.0		
	6HS-70-48-21	90.5	90.4	90.6			94.0	94.3	94.0		
	6HS-70-48-22	90.1	90.1	90.8			94.0	94.5	94.8		
	6HS-70-48-23	90.2	90.1	90.1			94.4	94.5	94.2		

Table 9D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in Low Viscosity Motor Oil at 120°C for 4 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 4 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1LM-120-04-11	80.3	80.7	80.5	80.6	0.32	85.4	85.5	85.5	85.4	0.30
	1LM-120-04-12	80.6	80.4	81.4			85.5	84.7	85.7		
	1LM-120-04-13	80.3	80.8	80.3			84.9	85.7	85.5		
	1LM-120-04-21	80.3	80.7	80.9			85.4	85.4	85.5		
	1LM-120-04-22	80.4	80.8	81.0			85.3	84.8	85.4		
	1LM-120-04-23	80.2	80.4	80.3			85.6	85.7	85.6		
2	2LM-120-04-11	80.5	80.2	80.0	80.4	0.29	87.1	87.2	86.4	86.8	0.27
	2LM-120-04-12	80.7	80.6	80.2			86.5	86.7	86.8		
	2LM-120-04-13	80.7	80.0	80.3			86.9	86.8	87.3		
	2LM-120-04-21	80.1	81.0	80.4			86.8	87.0	86.5		
	2LM-120-04-22	80.8	80.7	80.5			86.4	86.9	86.7		
	2LM-120-04-23	80.2	80.4	80.2			87.0	87.1	86.8		
3	3LM-120-04-11	80.3	80.3	80.4	80.5	0.26	86.5	86.1	87.0	86.5	0.30
	3LM-120-04-12	80.0	80.2	80.8			86.3	86.5	86.7		
	3LM-120-04-13	80.8	80.1	80.9			86.4	86.7	86.9		
	3LM-120-04-21	80.8	80.7	80.5			86.7	86.2	86.3		
	3LM-120-04-22	80.4	80.4	80.2			87.2	86.1	86.4		
	3LM-120-04-23	80.6	80.4	80.3			86.5	86.4	86.5		
4	4LM-120-04-11	80.5	80.8	80.9	80.5	0.23	86.6	86.9	86.9	86.4	0.27
	4LM-120-04-12	80.1	80.7	80.3			86.2	86.5	86.4		
	4LM-120-04-13	80.5	80.6	80.4			86.5	86.1	86.2		
	4LM-120-04-21	80.2	80.6	80.6			86.3	86.8	86.4		
	4LM-120-04-22	80.8	80.1	80.5			86.2	86.5	86.8		
	4LM-120-04-23	80.4	80.5	80.7			86.4	86.0	86.3		
5	5LM-120-04-11	80.2	80.4	80.7	80.4	0.27	87.8	86.8	87.5	87.4	0.36
	5LM-120-04-12	80.6	80.1	80.5			87.4	87.9	87.6		
	5LM-120-04-13	80.0	80.5	80.7			87.7	87.4	86.9		
	5LM-120-04-21	80.0	80.4	80.2			87.4	87.2	87.8		
	5LM-120-04-22	80.7	80.8	80.4			87.1	87.8	86.9		
	5LM-120-04-23	80.7	80.8	80.3			87.8	87.5	87.0		
6	6LM-120-04-11	90.4	90.7	90.4	90.6	0.32	95.5	95.6	95.7	95.5	0.30
	6LM-120-04-12	90.2	90.4	90.5			95.6	95.7	95.1		
	6LM-120-04-13	90.7	90.2	90.4			95.5	95.4	95.4		
	6LM-120-04-21	90.9	90.7	90.9			95.2	95.8	95.6		
	6LM-120-04-22	90.9	91.4	91.1			95.0	96.3	95.7		
	6LM-120-04-23	90.5	90.4	90.8			95.6	95.8	95.3		

Table 10D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in High Viscosity Motor Oil at 120°C for 4 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 4 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1HM-120-04-11	80.5	80.7	80.1	80.4	0.31	86.7	86.1	86.7	86.5	0.39
	1HM-120-04-12	80.4	80.6	80.8			85.9	86.4	86.3		
	1HM-120-04-13	80.9	80.9	80.0			86.0	87.2	86.1		
	1HM-120-04-21	80.3	80.4	80.3			86.3	86.0	86.7		
	1HM-120-04-22	80.0	80.0	80.4			87.0	87.1	86.7		
	1HM-120-04-23	80.9	80.6	80.2			86.4	86.4	86.5		
2	2HM-120-04-11	80.5	80.1	80.3	80.4	0.29	86.6	86.6	87.0	86.6	0.36
	2HM-120-04-12	80.1	80.8	80.1			86.5	86.6	86.7		
	2HM-120-04-13	80.8	80.8	80.4			86.6	86.7	87.2		
	2HM-120-04-21	80.8	80.2	80.4			86.1	86.6	86.6		
	2HM-120-04-22	80.9	80.0	80.3			85.9	87.5	86.4		
	2HM-120-04-23	80.3	80.6	80.6			86.8	86.7	86.3		
3	3HM-120-04-11	80.4	80.5	80.5	80.4	0.18	85.7	86.1	85.8	85.9	0.25
	3HM-120-04-12	80.8	80.5	80.1			86.0	85.5	85.9		
	3HM-120-04-13	80.4	80.5	80.2			86.0	85.5	86.5		
	3HM-120-04-21	80.1	80.4	80.4			85.8	85.8	85.9		
	3HM-120-04-22	80.3	80.3	80.4			86.2	86.0	85.8		
	3HM-120-04-23	80.3	80.1	80.6			85.6	85.9	85.7		
4	4HM-120-04-11	80.2	80.5	80.4	80.5	0.27	85.0	84.9	85.1	85.2	0.30
	4HM-120-04-12	80.7	80.9	80.5			85.5	85.3	84.8		
	4HM-120-04-13	80.9	80.4	80.1			85.7	85.0	85.0		
	4HM-120-04-21	80.1	80.7	80.1			85.3	85.8	85.2		
	4HM-120-04-22	80.8	80.7	80.4			85.0	85.8	85.4		
	4HM-120-04-23	80.6	80.4	80.2			85.1	85.2	85.1		
5	5HM-120-04-11	80.9	80.7	80.2	80.4	0.31	86.0	85.6	85.7	85.7	0.32
	5HM-120-04-12	80.9	80.6	80.1			85.7	85.2	85.6		
	5HM-120-04-13	80.3	80.6	80.4			86.0	85.6	85.8		
	5HM-120-04-21	80.3	80.9	80.2			85.0	85.7	85.7		
	5HM-120-04-22	80.2	80.4	80.1			85.6	85.3	85.6		
	5HM-120-04-23	80.0	80.2	80.0			86.0	85.8	86.4		
6	6HM-120-04-11	90.3	90.4	90.5	90.4	0.17	95.7	95.3	95.0	95.5	0.38
	6HM-120-04-12	90.5	90.4	90.4			95.4	95.0	95.5		
	6HM-120-04-13	90.5	90.2	90.2			94.5	95.9	95.9		
	6HM-120-04-21	90.5	90.5	90.1			96.1	95.5	95.4		
	6HM-120-04-22	90.4	90.3	90.4			95.1	95.5	95.5		
	6HM-120-04-23	90.1	90.7	90.1			95.9	95.5	95.4		

Table 11D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in Low Viscosity Silicone Oil at 120°C for 4 hours

Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 4 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1LS-120-04-11	80.2	80.5	80.4	80.3	0.22	86.4	85.1	86.0	85.9	0.36
	1LS-120-04-12	80.0	80.6	80.3			86.0	86.4	85.7		
	1LS-120-04-13	80.1	80.8	80.2			85.4	85.9	85.8		
	1LS-120-04-21	80.5	80.3	80.3			86.6	86.0	85.8		
	1LS-120-04-22	80.1	80.3	80.4			85.6	86.0	85.7		
	1LS-120-04-23	80.1	80.7	80.1			85.5	85.9	85.8		
2	2LS-120-04-11	80.6	80.0	80.6	80.4	0.22	86.7	86.3	86.5	86.5	0.29
	2LS-120-04-12	80.4	80.7	80.1			86.3	86.5	86.2		
	2LS-120-04-13	80.5	80.6	80.2			86.8	86.9	85.9		
	2LS-120-04-21	80.1	80.3	80.5			86.6	86.9	86.4		
	2LS-120-04-22	80.6	80.2	80.6			86.9	86.4	86.6		
	2LS-120-04-23	80.2	80.2	80.2			86.7	86.1	86.8		
3	3LS-120-04-11	80.0	80.7	80.4	80.4	0.31	87.2	86.8	86.2	86.6	0.35
	3LS-120-04-12	80.2	80.0	80.6			86.5	86.7	86.4		
	3LS-120-04-13	80.1	80.6	80.2			86.8	87.0	86.4		
	3LS-120-04-21	80.1	80.7	80.9			86.9	86.7	86.4		
	3LS-120-04-22	80.3	80.4	80.9			86.6	86.9	86.2		
	3LS-120-04-23	80.0	80.3	80.1			86.0	86.4	85.9		
4	4LS-120-04-11	80.4	80.4	80.2	80.5	0.26	86.2	86.3	86.0	86.6	0.36
	4LS-120-04-12	80.6	80.2	80.5			86.8	86.4	86.5		
	4LS-120-04-13	80.8	80.5	80.3			86.8	86.3	86.7		
	4LS-120-04-21	80.1	80.7	80.6			86.9	86.4	86.9		
	4LS-120-04-22	80.3	80.2	80.7			86.6	86.2	87.0		
	4LS-120-04-23	80.0	80.7	80.9			87.0	86.9	87.4		
5	5LS-120-04-11	80.4	80.2	80.5	80.4	0.26	86.7	86.6	86.9	86.6	0.36
	5LS-120-04-12	80.1	80.3	80.6			87.0	86.8	86.4		
	5LS-120-04-13	80.2	80.4	80.4			86.7	86.4	86.3		
	5LS-120-04-21	80.9	80.5	80.2			86.7	86.7	86.6		
	5LS-120-04-22	80.6	80.0	80.3			87.2	86.5	86.2		
	5LS-120-04-23	80.9	80.1	80.2			87.0	85.8	86.0		
6	6LS-120-04-11	90.8	90.9	90.5	90.6	0.24	95.9	96.5	96.4	96.4	0.33
	6LS-120-04-12	90.4	90.7	90.6			96.1	96.7	96.0		
	6LS-120-04-13	90.5	90.2	90.8			96.4	96.6	96.4		
	6LS-120-04-21	90.2	90.4	90.7			97.0	96.2	96.5		
	6LS-120-04-22	90.2	90.7	90.6			96.1	96.0	96.2		
	6LS-120-04-23	90.7	90.8	90.2			96.2	97.1	96.3		

Table 12D: Hardness measurement of Specimens of Formulation 1~6 after Immersion in High Viscosity Silicone Oil at 120°C for 4 hours

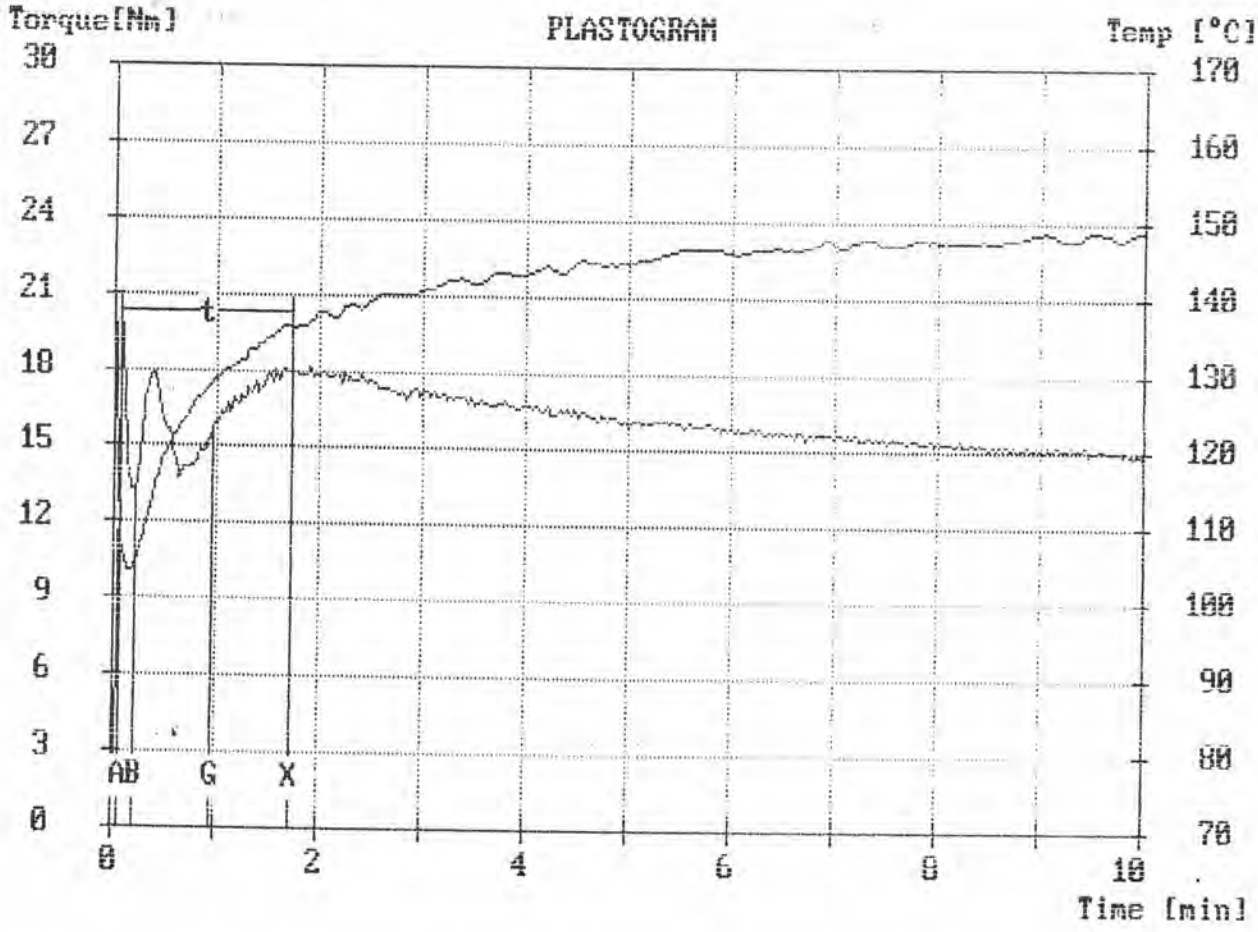
Formulation	Sample No.	Hardness before Immersion					Hardness after Immersion 4 hr.				
		Point 1	Point 2	Point 3	AVG.	SD.	Point 1	Point 2	Point 3	AVG.	SD.
1	1HS-120-04-11	80.2	80.9	80.0	80.4	0.29	86.4	86.0	86.7	86.6	0.38
	1HS-120-04-12	80.5	80.0	80.2			86.5	86.1	86.9		
	1HS-120-04-13	80.7	80.9	80.5			86.6	87.3	87.0		
	1HS-120-04-21	80.5	80.2	80.5			87.2	86.8	86.3		
	1HS-120-04-22	80.8	80.1	80.2			86.8	86.2	86.3		
	1HS-120-04-23	80.5	80.3	80.7			86.4	87.0	86.7		
2	2HS-120-04-11	80.4	80.3	80.6	80.5	0.26	87.0	86.4	86.7	86.9	0.39
	2HS-120-04-12	80.7	80.3	80.6			87.4	86.0	86.1		
	2HS-120-04-13	80.3	80.8	80.6			86.5	87.2	86.7		
	2HS-120-04-21	80.2	80.1	80.4			87.2	87.2	87.0		
	2HS-120-04-22	80.9	80.8	80.5			87.0	86.8	87.2		
	2HS-120-04-23	80.6	80.0	80.1			87.1	86.9	86.9		
3	3HS-120-04-11	80.6	80.9	80.2	80.5	0.30	86.5	86.2	86.0	86.3	0.35
	3HS-120-04-12	80.0	80.5	80.3			86.6	86.4	86.5		
	3HS-120-04-13	80.5	80.0	80.7			86.1	85.8	87.0		
	3HS-120-04-21	80.5	80.7	80.9			86.7	86.7	86.3		
	3HS-120-04-22	80.1	80.8	80.4			85.6	86.4	86.7		
	3HS-120-04-23	80.6	80.7	80.1			86.2	86.0	86.4		
4	4HS-120-04-11	80.5	80.4	80.5	80.5	0.25	86.7	86.8	87.1	87.2	0.37
	4HS-120-04-12	80.7	80.5	80.2			87.3	87.0	86.7		
	4HS-120-04-13	80.9	80.1	80.7			87.2	86.6	86.5		
	4HS-120-04-21	80.6	80.7	80.9			87.4	87.5	87.7		
	4HS-120-04-22	80.7	80.3	80.1			87.5	87.3	87.5		
	4HS-120-04-23	80.6	80.5	80.2			87.4	87.0	87.6		
5	5HS-120-04-11	80.0	80.1	80.2	80.2	0.26	86.5	86.7	86.3	86.3	0.39
	5HS-120-04-12	80.1	80.2	80.4			86.6	87.0	86.4		
	5HS-120-04-13	80.0	80.0	80.7			85.9	86.2	86.7		
	5HS-120-04-21	80.2	80.6	80.6			86.3	85.7	86.0		
	5HS-120-04-22	80.1	80.0	80.8			86.8	85.7	85.9		
	5HS-120-04-23	80.0	80.2	80.2			86.6	86.7	86.2		
6	6HS-120-04-11	90.5	90.0	90.8	90.5	0.26	97.3	97.5	97.3	97.2	0.30
	6HS-120-04-12	90.5	90.5	90.9			97.2	97.5	97.1		
	6HS-120-04-13	90.8	90.4	90.4			97.0	97.3	97.9		
	6HS-120-04-21	90.3	90.1	90.1			97.4	97.2	97.0		
	6HS-120-04-22	90.6	90.6	90.4			96.5	97.2	97.2		
	6HS-120-04-23	90.3	90.2	90.8			97.0	97.0	96.9		

APPENDIX E

Table 1E: Data-Processing of fusion of Formulation 1

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 1	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 1
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	20.4	107
Minimum	B	00:00:12	13.3	105
Inflection Point	G	00:00:58	15.7	129
Maximum	X	00:01:44	18.0	136
End	E	00:15:00	14.3	149

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.4	[kNm]
- Minimum to Maximum	B - X	: W2 =	4.8	[kNm]
- Maximum to End	X - E	: W3 =	39.4	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	5.2	[kNm]
- Loading Peak to End	A - E	: W5 =	44.6	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.9	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	0.9	[kNm]

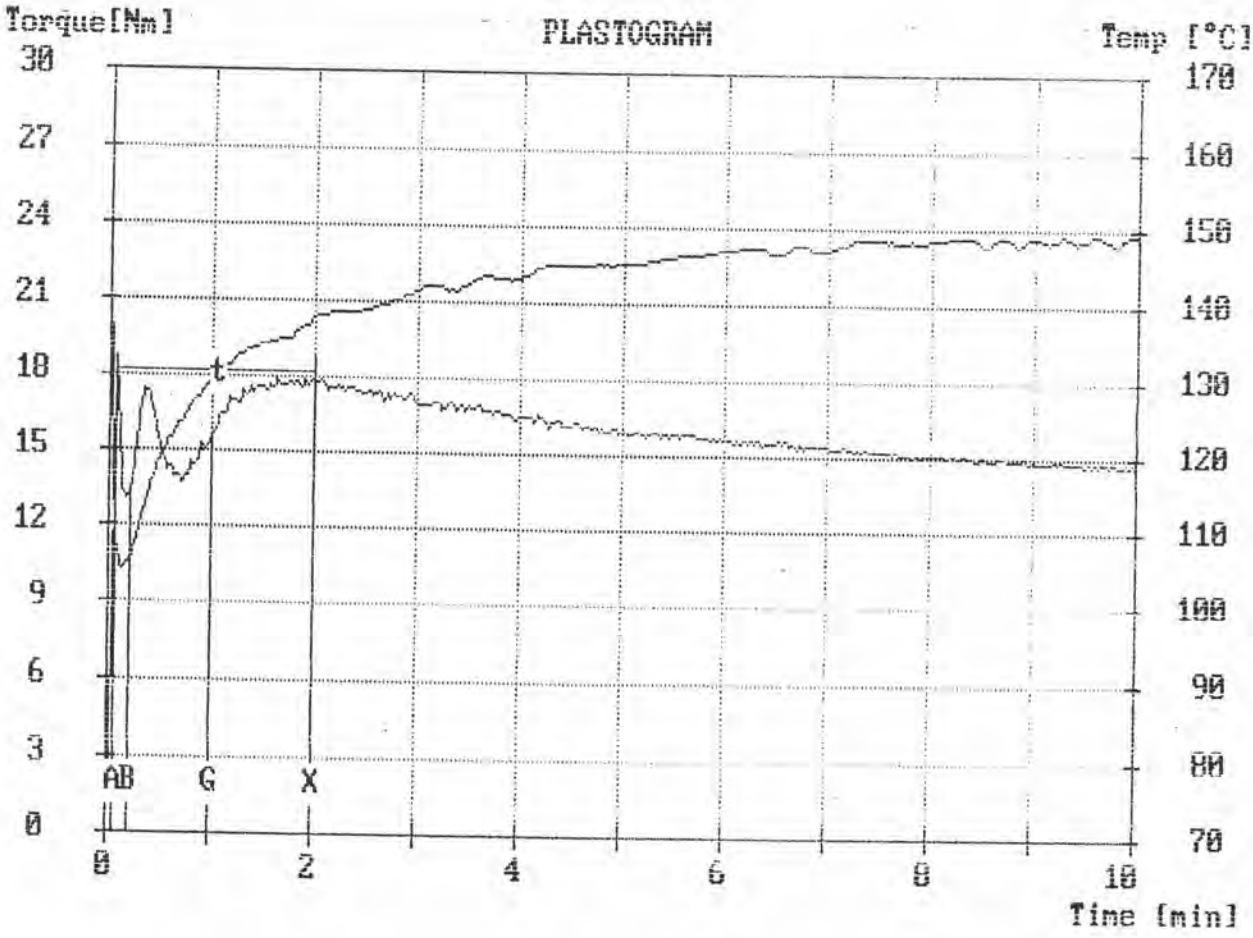
Results

- Fusion Time	A - X	: t =	00:01:40	
- Gelation Speed	G ± 20%	: v =	-3.1	[Nm/min]

Table 2E: Data-Processing of fusion of Formulation 1

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 1	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 2
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	18.2	108
Minimum	B	00:00:12	13.3	106
Inflection Point	G	00:01:00	15.7	130
Maximum	X	00:02:00	17.9	138
End	E	00:14:26	14.2	150

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.4	[kNm]
- Minimum to Maximum	B - X	: W2 =	5.6	[kNm]
- Maximum to End	X - E	: W3 =	36.4	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	6.0	[kNm]
- Loading Peak to End	A - E	: W5 =	42.4	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.8	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	1.0	[kNm]

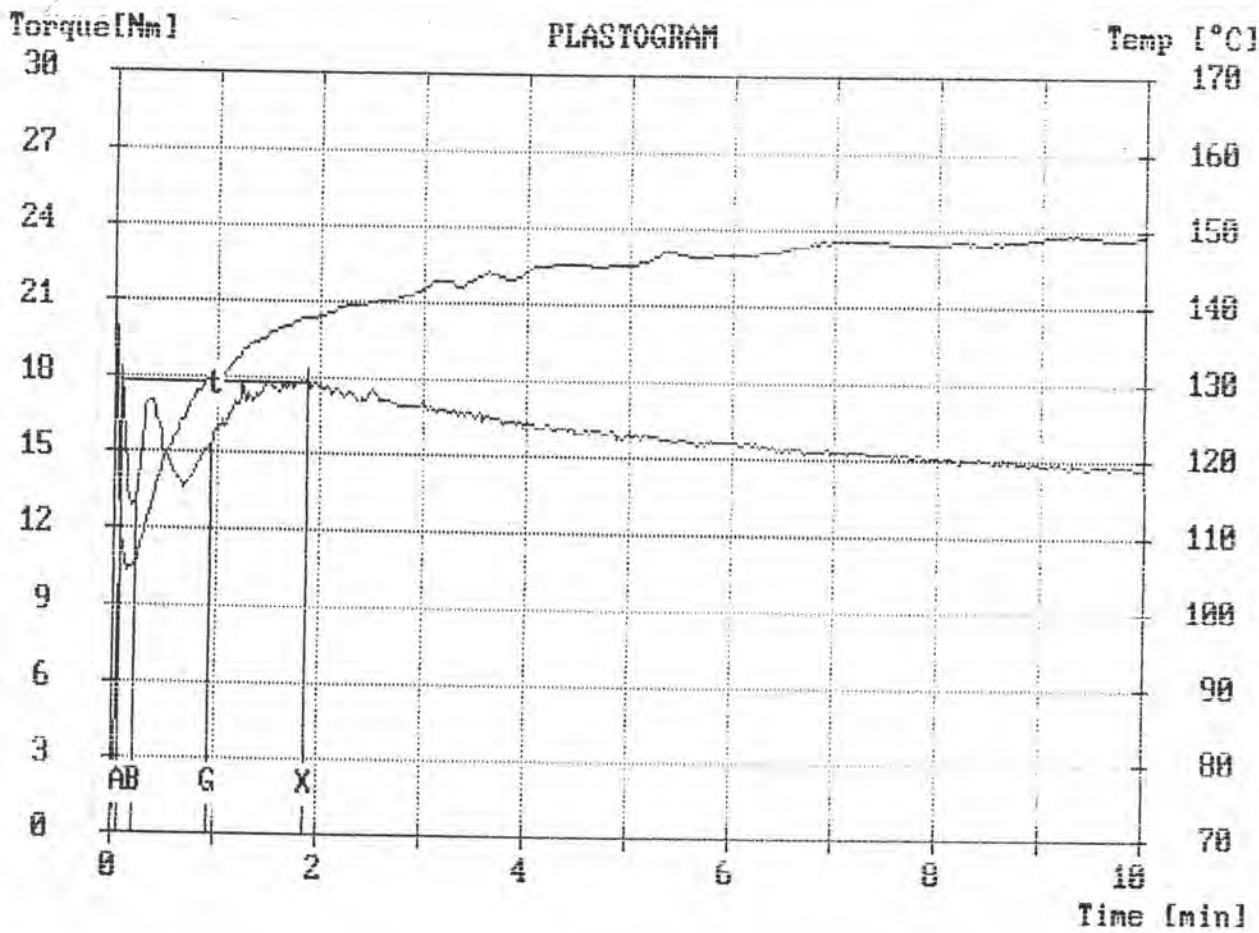
Results

- Fusion Time	A - X	: t =	00:01:56	
- Gelation Speed	G ± 20%	: v =	-2.2	[Nm/min]

Table 3E: Data-Processing of fusion of Formulation 1

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 1	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 3
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	17.7	109
Minimum	B	00:00:12	13.2	106
Inflection Point	G	00:00:56	15.2	129
Maximum	X	00:01:52	17.8	138
End	E	00:10:04	14.6	150

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.3	[kNm]
- Minimum to Maximum	B - X	: W2 =	5.2	[kNm]
- Maximum to End	X - E	: W3 =	24.7	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	5.5	[kNm]
- Loading Peak to End	A - E	: W5 =	30.2	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.6	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	1.0	[kNm]

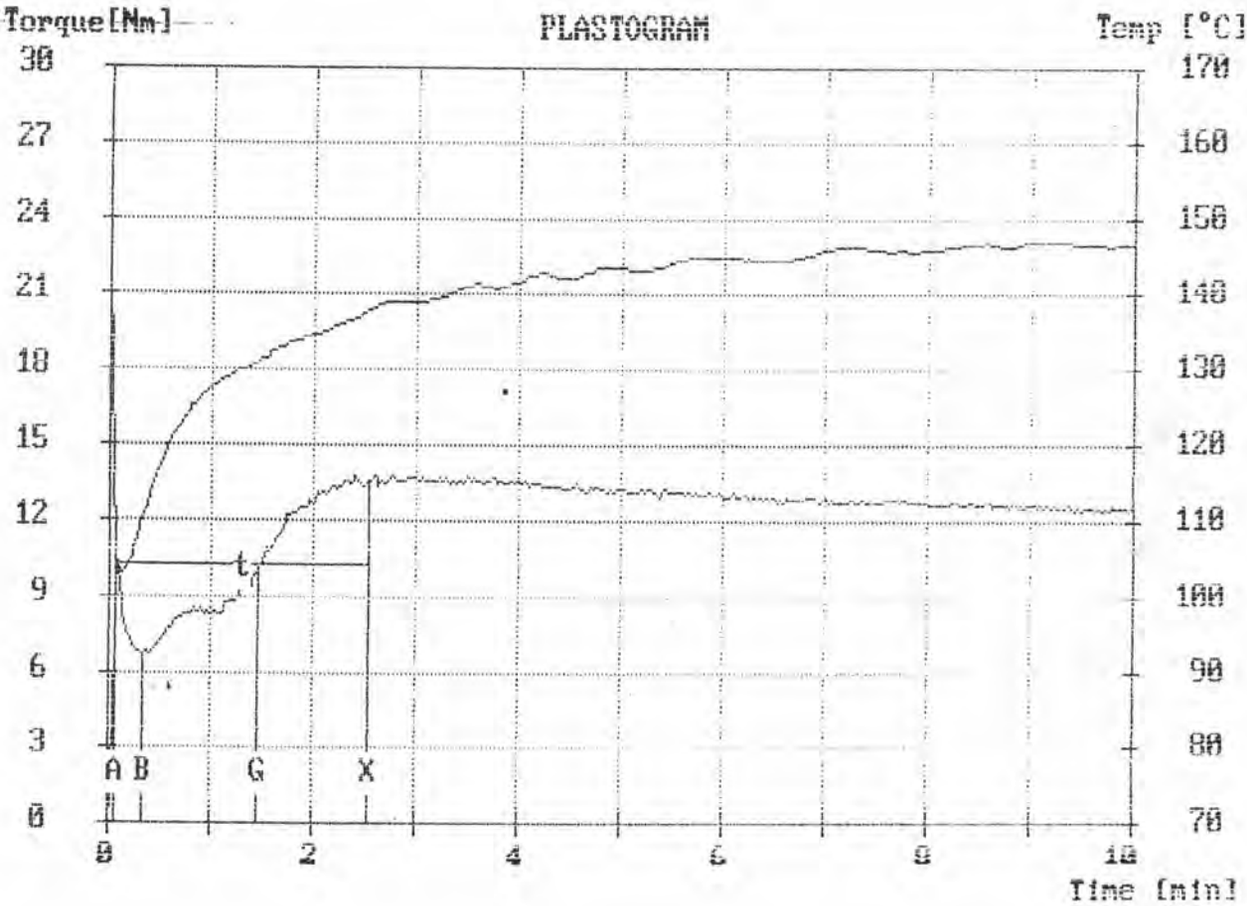
Results

- Fusion Time	A - X	: t =	00:01:48	
- Gelation Speed	G ± 20%	: v =	-3.9	[Nm/min]

Table 4E: Data-Processing of fusion of Formulation 2

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 2	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 1
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	10.3	105
Minimum	B	00:00:20	6.8	111
Inflection Point	G	00:01:28	10.2	131
Maximum	X	00:02:32	13.7	138
End	E	00:10:08	12.4	147

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.4	[kNm]
- Minimum to Maximum	B - X	: W2 =	4.4	[kNm]
- Maximum to End	X - E	: W3 =	18.9	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	4.8	[kNm]
- Loading Peak to End	A - E	: W5 =	23.7	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.5	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	1.5	[kNm]

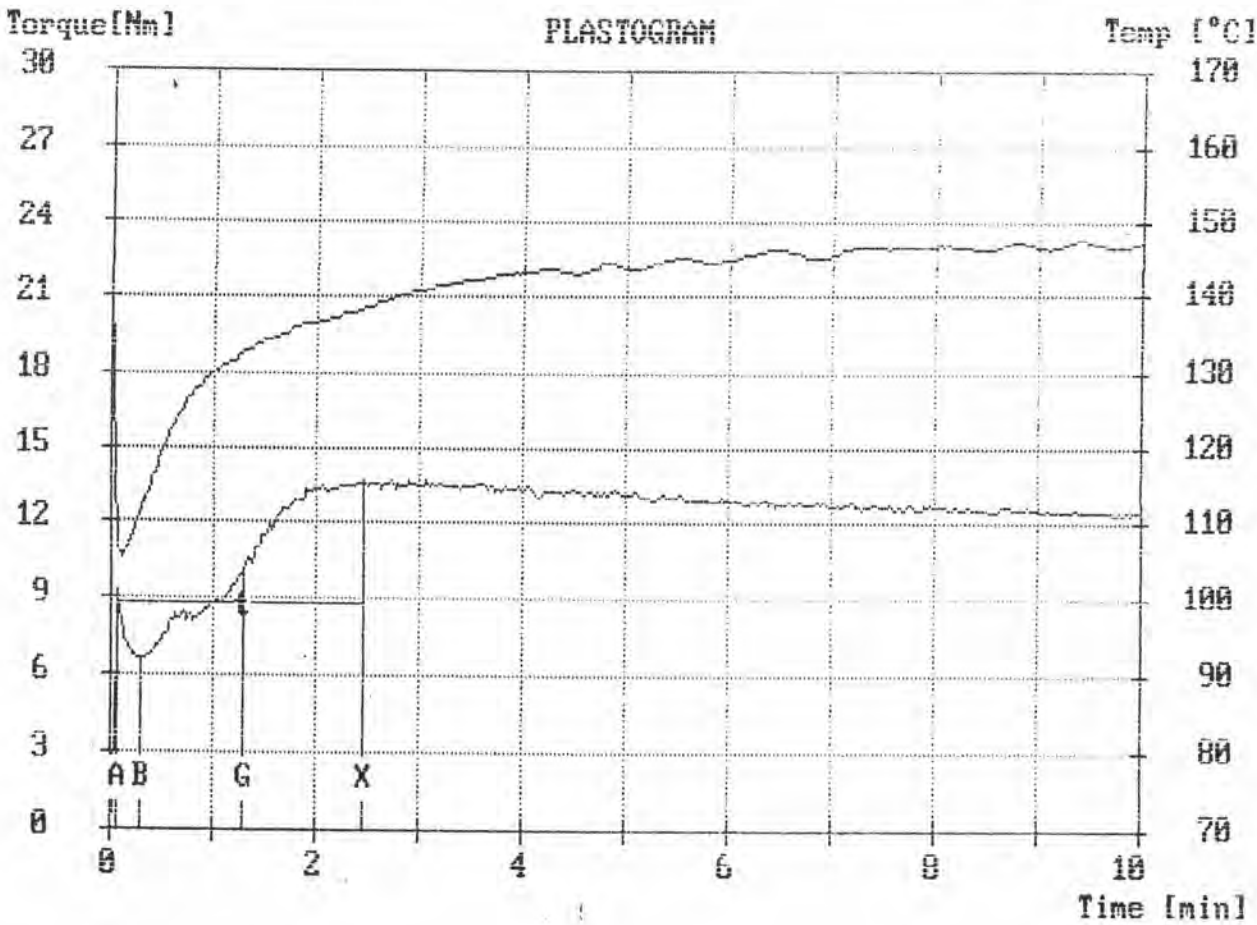
Results

- Fusion Time	A - X	: t =	00:02:28	
- Gelation Speed	G ± 20%	: v =	7.0	[Nm/min]

Table 5E: Data-Processing of fusion of Formulation 2

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 2	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 2
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	8.8	107
Minimum	B	00:00:18	6.6	112
Inflection Point	G	00:01:18	10.2	133
Maximum	X	00:02:28	13.7	139
End	E	00:15:00	12.0	142

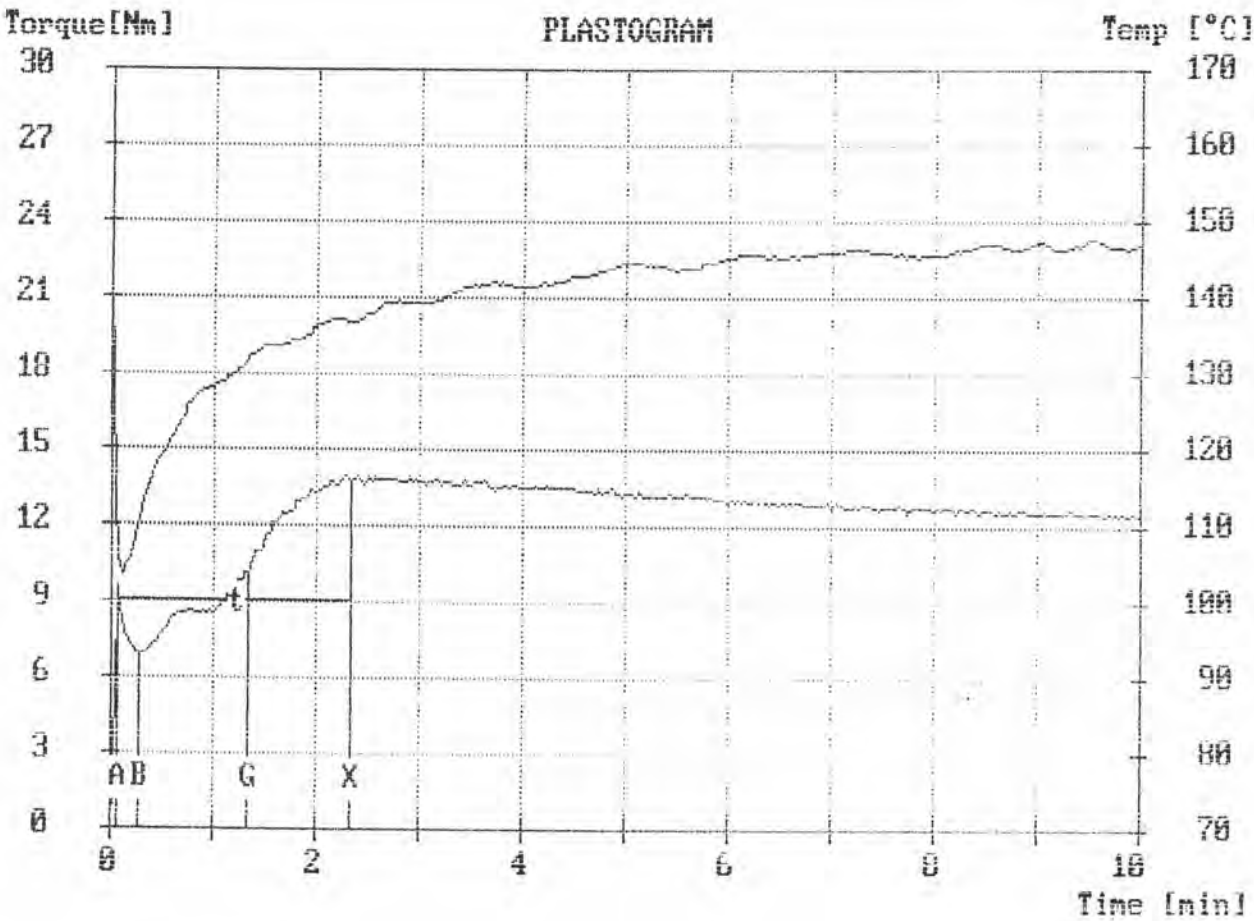
Integration / Energy				
- Loading Peak to Minimum	A - B	: W1 =	0.3	[kNm]
- Minimum to Maximum	B - X	: W2 =	4.4	[kNm]
- Maximum to End	X - E	: W3 =	30.3	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	4.8	[kNm]
- Loading Peak to End	A - E	: W5 =	35.0	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.7	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	1.7	[kNm]

Results				
- Fusion Time	A - X	: t =	00:02:24	
- Gelation Speed	G ± 20%	: v =	6.1	[Nm/min]

Table 6E: Data-Processing of fusion of Formulation 2

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 2	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 3
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	9.2	105
Minimum	B	00:00:16	7.0	111
Inflection Point	G	00:01:20	10.1	132
Maximum	X	00:02:20	13.7	137
End	E	00:11:34	12.3	148

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.2	[kNm]
- Minimum to Maximum	B - X	: W2 =	4.3	[kNm]
- Maximum to End	X - E	: W3 =	23.5	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	4.5	[kNm]
- Loading Peak to End	A - E	: W5 =	27.9	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.5	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	1.4	[kNm]

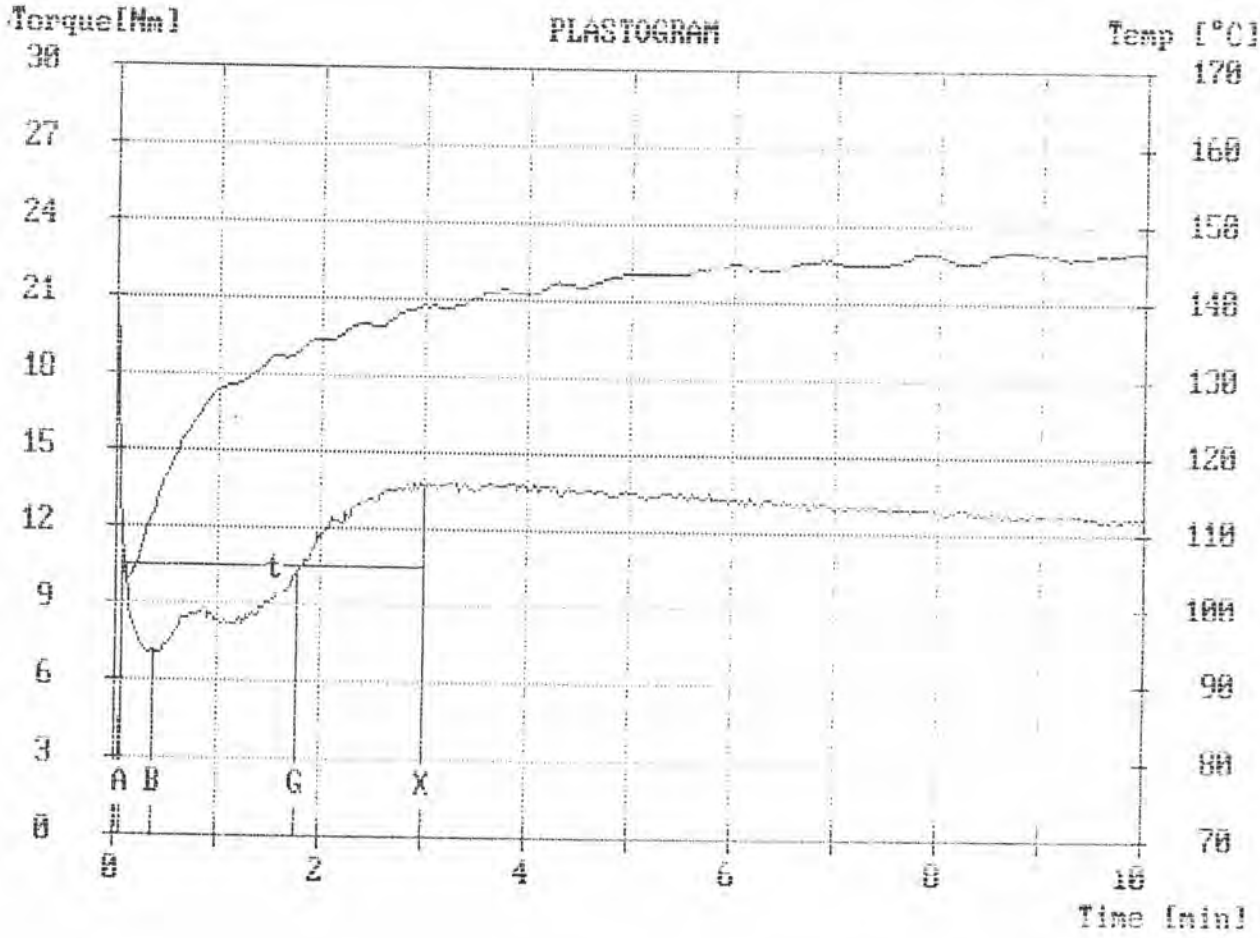
Results

- Fusion Time	A - X	: t =	00:02:16	
- Gelation Speed	G ± 20%	: v =	7.6	[Nm/min]

Table 7E: Data-Processing of fusion of Formulation 3

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 3	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 1
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	10.5	108
Minimum	B	00:00:22	7.2	113
Inflection Point	G	00:01:46	10.8	130
Maximum	X	00:03:00	13.6	139
End	E	00:10:04	12.6	147

Integration / Energy

- Loading Peak to Minimum	A - B	: W1	=	[Nm]
- Minimum to Maximum	B - X	: W2	=	[Nm]
- Maximum to End	X - E	: W3	=	[Nm]
- Loading Peak to Maximum	A - X	: W4	=	[Nm]
- Loading Peak to End	A - E	: W5	=	[Nm]
- Specific Energy (W5/Sample Weight)		: W6	=	[Nm/g]
- Gelation Area above B	(B - X)	: W7	=	[Nm]

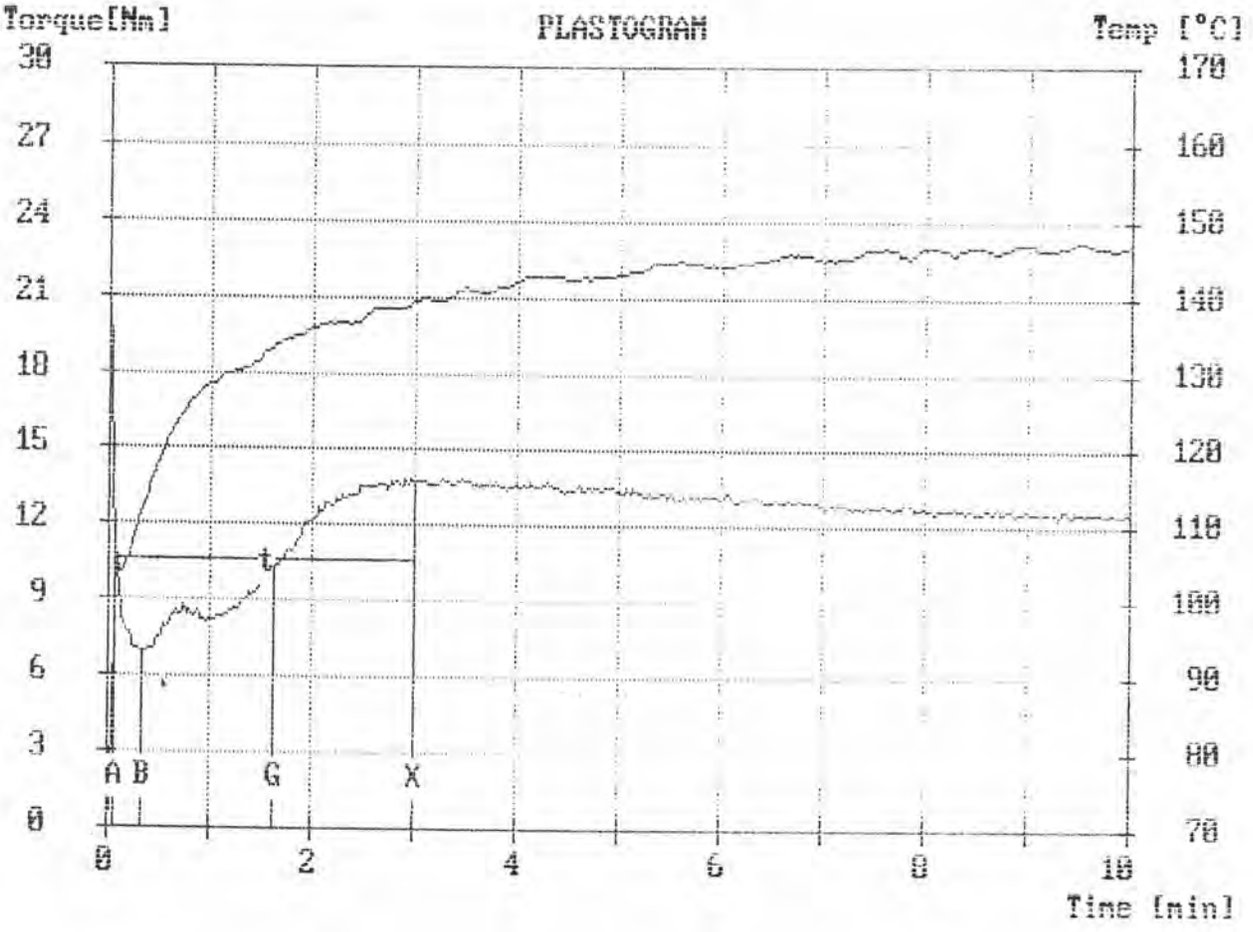
Results

- Fusion Time	A - X	: t	=	00:02:56
- Gelation Speed	G ± 20%	: v	=	6.1 [Nm/min]

Table 8E: Data-Processing of fusion of Formulation 3

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 3	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 2
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	10.6	106
Minimum	B	00:00:20	7.0	112
Inflection Point	G	00:01:38	10.3	134
Maximum	X	00:03:00	13.7	140
End	E	00:10:08	12.5	147

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.4	[kNm]
- Minimum to Maximum	B - X	: W2 =	5.5	[kNm]
- Maximum to End	X - E	: W3 =	17.8	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	5.9	[kNm]
- Loading Peak to End	A - E	: W5 =	23.6	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.5	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	1.9	[kNm]

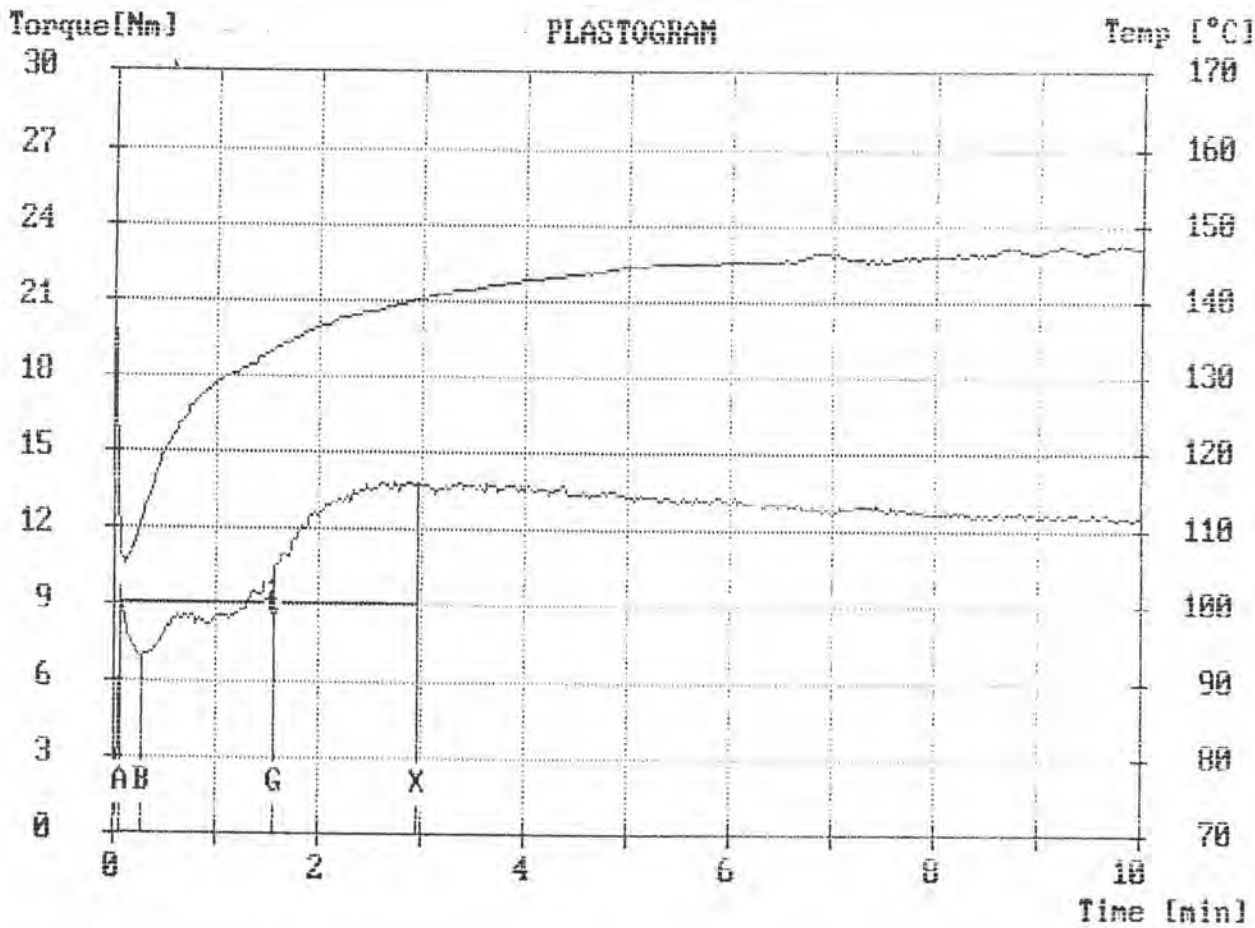
Results

- Fusion Time	A - X	: t =	00:02:56	
- Gelation Speed	G ± 20%	: v =	5.3	[Nm/min]

Table 9E: Data-Processing of fusion of Formulation 3

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 3	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 3
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	9.1	107
Minimum	B	00:00:16	7.0	112
Inflection Point	G	00:01:34	10.5	133
Maximum	X	00:02:58	13.8	140
End	E	00:10:02	12.5	147

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.3	[kNm]
- Minimum to Maximum	B - X	: W2 =	5.6	[kNm]
- Maximum to End	X - E	: W3 =	17.6	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	15.9	[kNm]
- Loading Peak to End	A - E	: W5 =	23.5	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.5	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	2.0	[kNm]

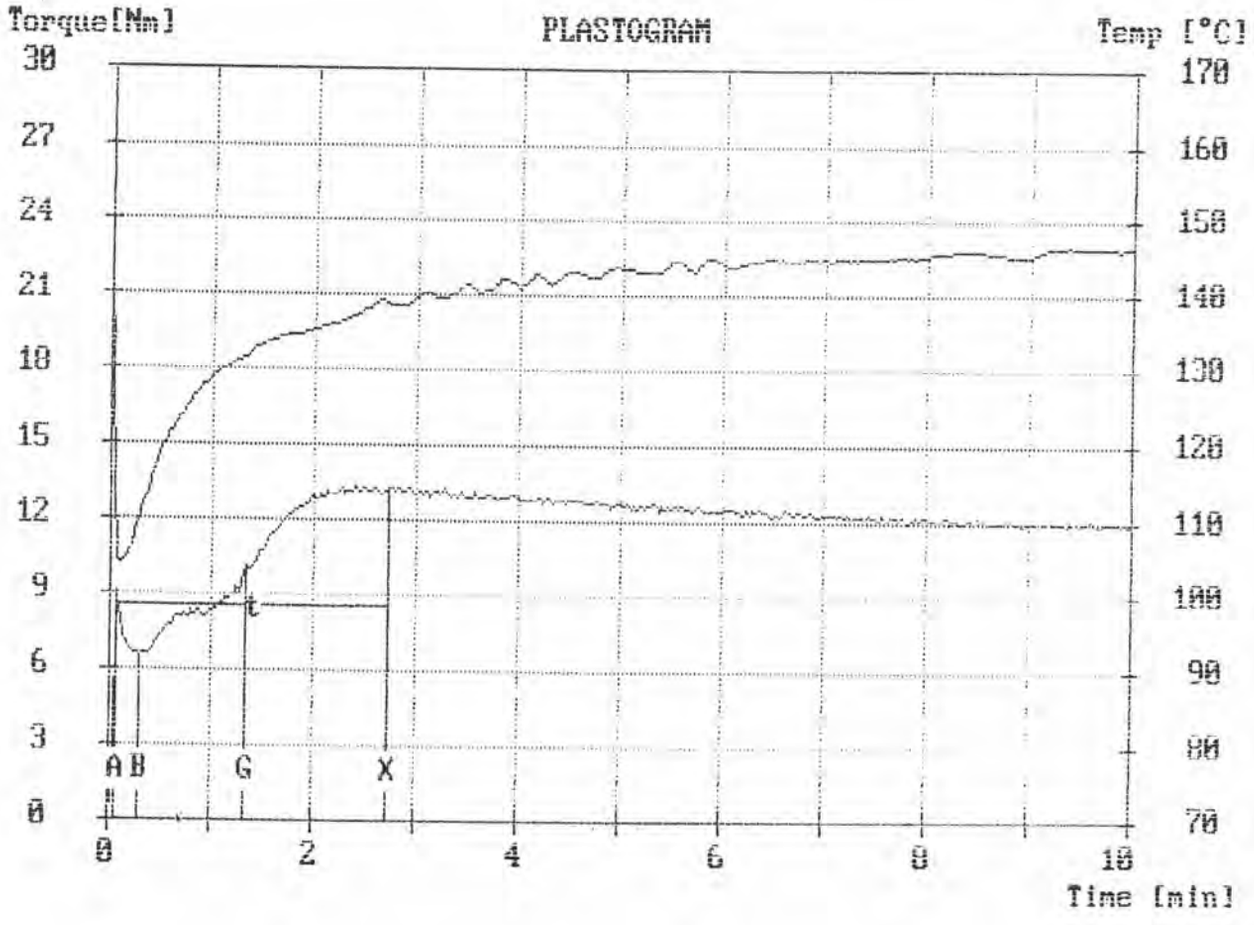
Results

- Fusion Time	A - X	: t =	00:02:54	
- Gelation Speed	G ± 20%	: v =	6.7	[Nm/min]

Table 10E: Data-Processing of fusion of Formulation 4

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 4	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 1
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	8.6	105
Minimum	B	00:00:18	6.5	111
Inflection Point	G	00:01:20	10.1	132
Maximum	X	00:02:44	13.3	139
End	E	00:11:16	11.8	147

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.3	[kNm]
- Minimum to Maximum	B - X	: W2 =	5.0	[kNm]
- Maximum to End	X - E	: W3 =	20.2	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	5.3	[kNm]
- Loading Peak to End	A - E	: W5 =	25.4	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.5	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	1.9	[kNm]

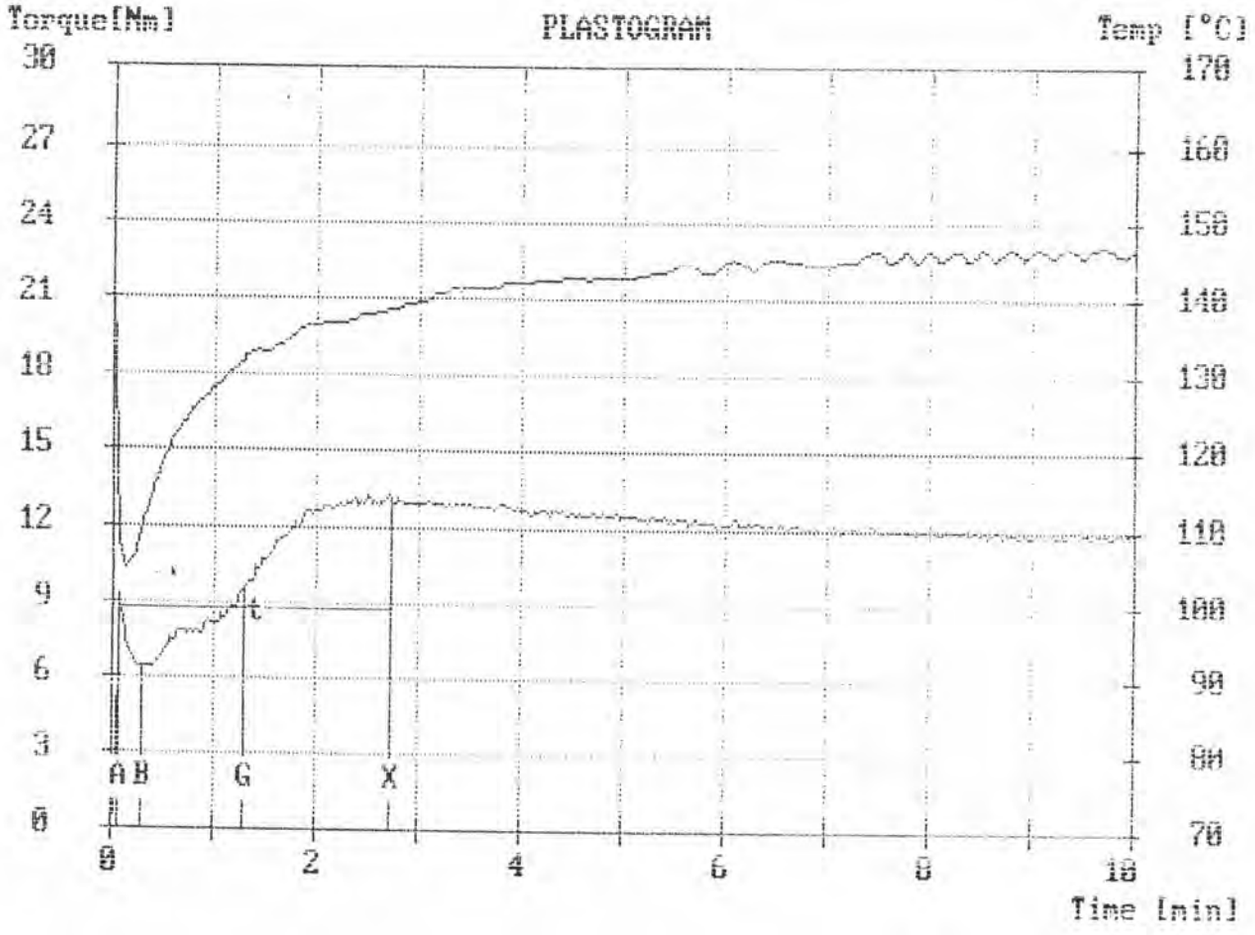
Results

- Fusion Time	A - X	: t =	00:02:40	
- Gelation Speed	G ± 20%	: v =	7.9	[Nm/min]

Table 11E: Data-Processing of fusion of Formulation 4

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 4	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 2
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	8.8	108
Minimum	B	00:00:18	6.4	111
Inflection Point	G	00:01:18	9.6	132
Maximum	X	00:02:44	13.0	139
End	E	00:10:36	11.7	147

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.3	[kNm]
- Minimum to Maximum	B - X	: W2 =	0.1	[kNm]
- Maximum to End	X - E	: W3 =	165.4	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	0.4	[kNm]
- Loading Peak to End	A - E	: W5 =	233.6	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.05	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	1.9	[kNm]

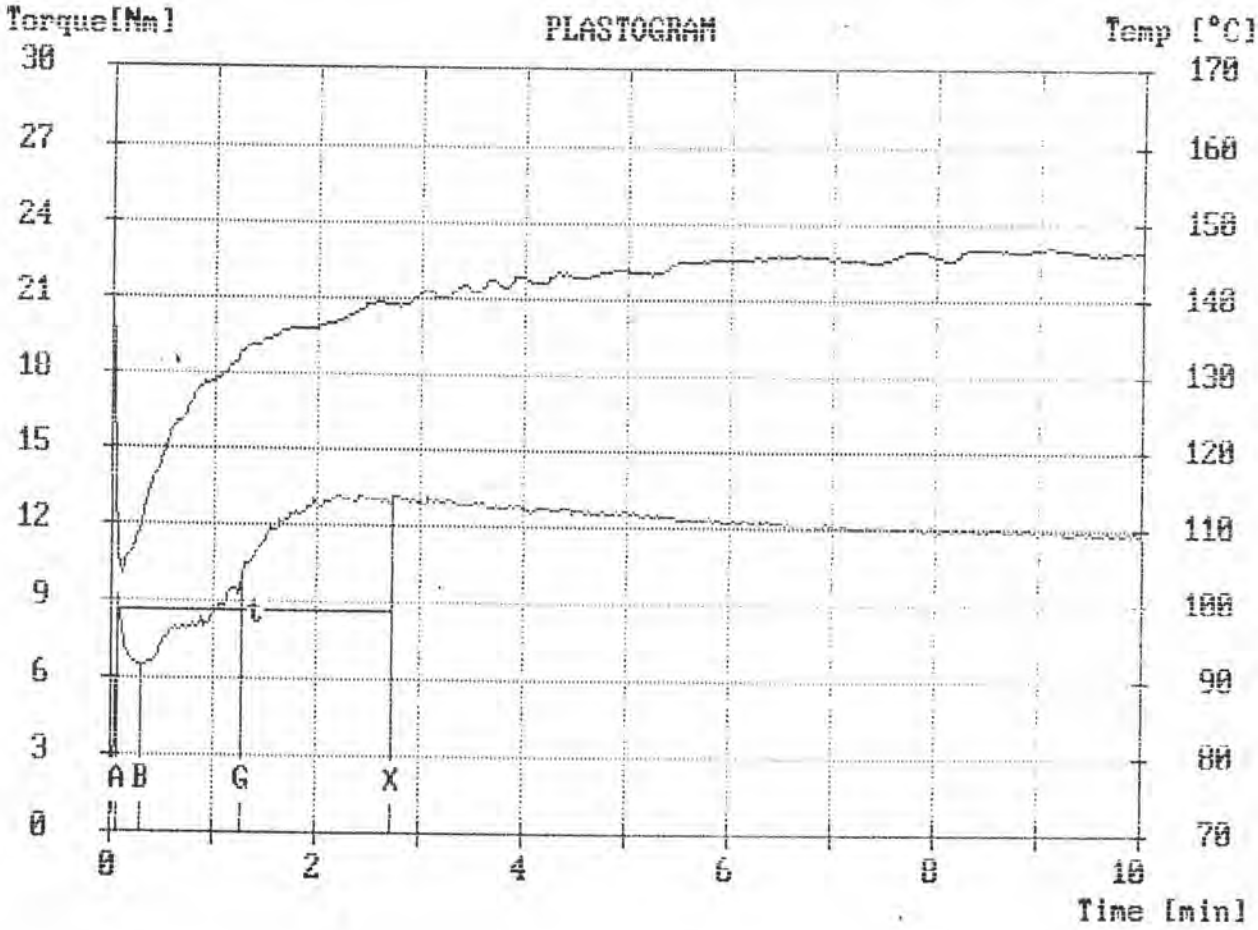
Results

- Fusion Time	A - X	: t =	00:02:40	
- Gelation Speed	G ± 20%	: v =	7.6	[Nm/min]

Table 12E: Data-Processing of fusion of Formulation 4

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 4	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 3
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	8.7	105
Minimum	B	00:00:18	6.5	111
Inflection Point	G	00:01:16	10.1	133
Maximum	X	00:02:44	13.1	139
End	E	00:10:20	11.8	147

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.3	[kNm]
- Minimum to Maximum	B - X	: W2 =	5.0	[kNm]
- Maximum to End	X - E	: W3 =	17.8	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	5.3	[kNm]
- Loading Peak to End	A - E	: W5 =	23.1	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.5	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	2.0	[kNm]

Results

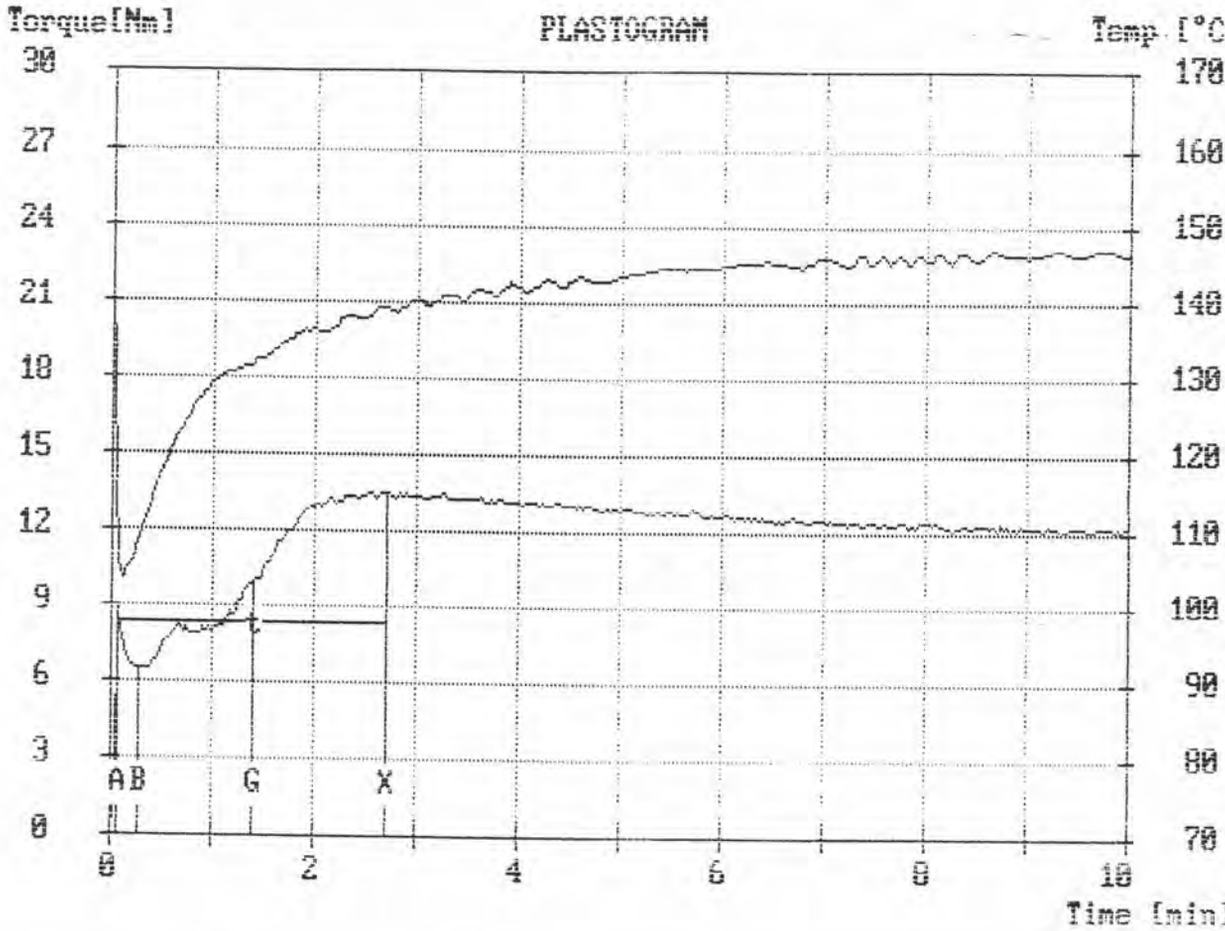
- Fusion Time	A - X	: t =	00:02:40	
- Gelation Speed	G ± 20%	: v =	6.8	[Nm/min]

Table 13E: Data-Processing of fusion of Formulation 5

Fusion Behavior

Test-Conditions

Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 5	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 1
		Start-Temp.	: 140 °C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	9.4	105
Minimum	B	00:00:16	6.5	109
Inflection Point	G	00:01:24	11.0	132
Maximum	X	00:02:44	13.5	139
End	E	00:11:30	12.0	148

Integration / Energy

- Loading Peak to Minimum	A - B	W1	=	0.3 [kNm]
- Minimum to Maximum	B - X	W2	=	1.3 [kNm]
- Maximum to End	X - E	W3	=	2.1 [kNm]
- Loading Peak to Maximum	A - X	W4	=	1.6 [kNm]
- Loading Peak to End	A - E	W5	=	3.5 [kNm]
- Specific Energy (W5/Sample Weight)		W6	=	0.07 [kNm/g]
- Gelation Area above B	(B - X)	W7	=	1.0 [kNm]

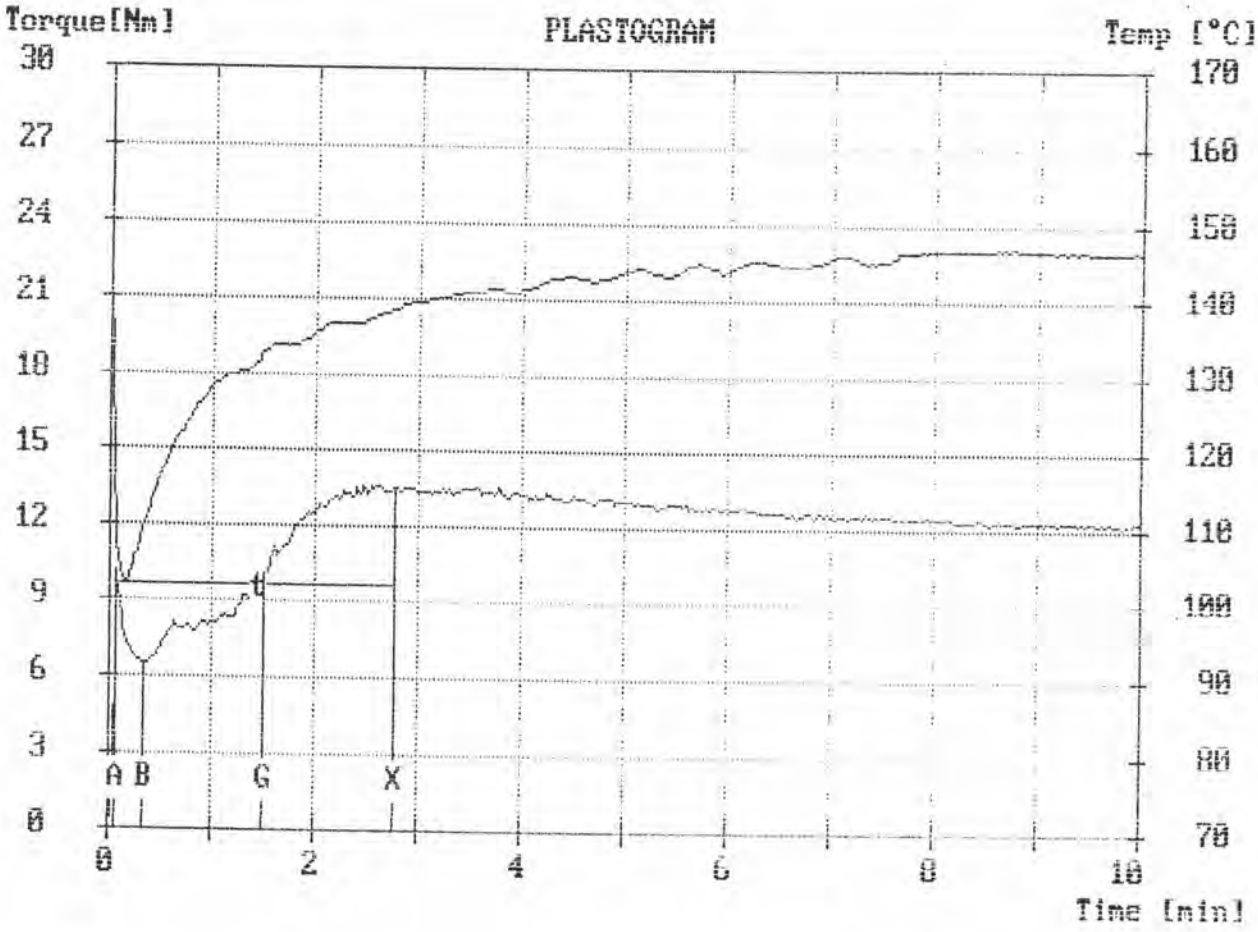
Results

- Fusion Time	A - X	t	=	00:02:38
- Gelation Speed	B + 90%		=	5.8 [Nm/min]

Table 14E: Data-Processing of fusion of Formulation 5

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 5	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 2
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp. [°C]
Loading Peak	A	00:00:04	9.6	107
Minimum	B	00:00:20	8.5	110
Inflection Point	G	00:01:30	10.1	133
Maximum	X	00:02:46	13.5	139
End	E	00:12:20	12.1	147

Integration / Energy

- Loading Peak to Minimum	A – B	: W1 =	0.4	[kNm]
- Minimum to Maximum	B – X	: W2 =	4.3	[kNm]
- Maximum to End	X – E	: W3 =	23.0	[kNm]
- Loading Peak to Maximum	A – X	: W4 =	5.3	[kNm]
- Loading Peak to End	A – E	: W5 =	28.3	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.6	[kNm/g]
- Gelation Area above B	(B – X)	: W7 =	1.9	[kNm]

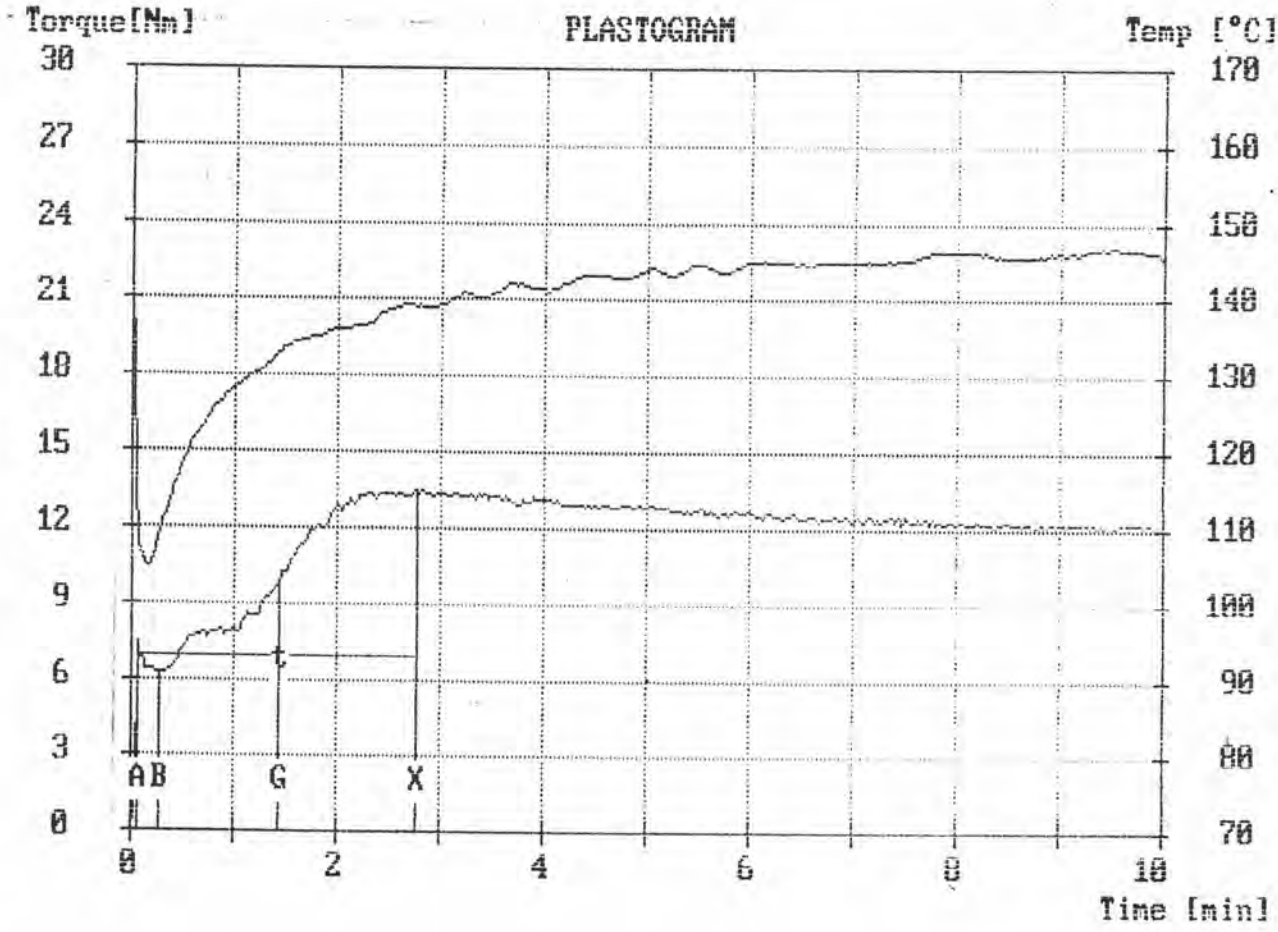
Results

- Fusion Time	A – X	: t =	00:02:42	
- Gelation Speed	G ± 20%	: v =	8.4	[Nm/min]

Table 15E: Data-Processing of fusion of Formulation 5

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 5	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 3
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	7.0	108
Minimum	B	00:00:16	6.3	110
Inflection Point	G	00:01:26	10.0	133
Maximum	X	00:02:46	13.5	139
End	E	00:15:00	11.9	147

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.2	[kNm]
- Minimum to Maximum	B - X	: W2 =	5.0	[kNm]
- Maximum to End	X - E	: W3 =	28.9	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	5.2	[kNm]
- Loading Peak to End	A - E	: W5 =	34.1	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.7	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	2.0	[kNm]

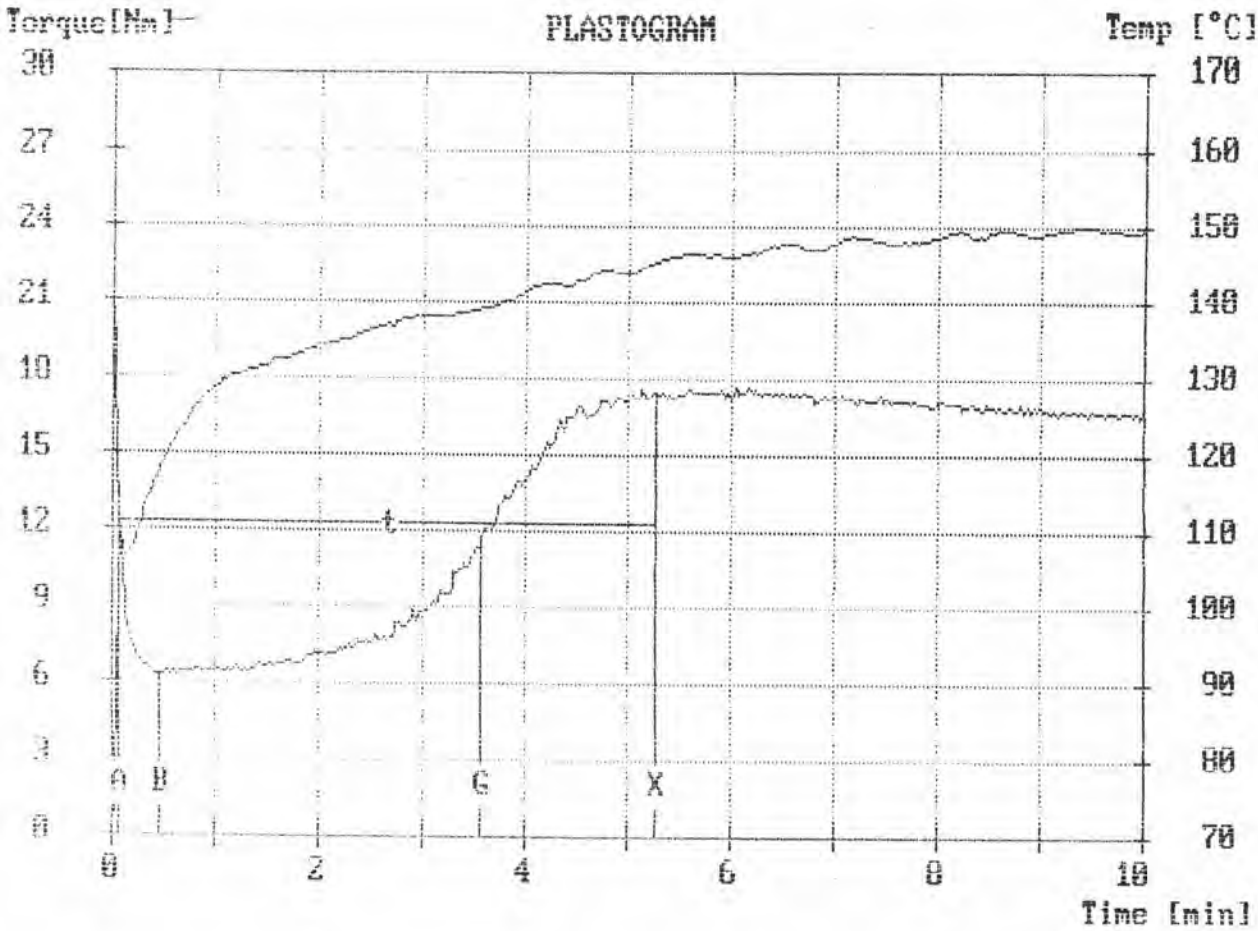
Results

- Fusion Time	A - X	: t =	00:02:42	
- Gelation Speed	G ± 20%	: v =	6.3	[Nm/min]

Table 16E: Data-Processing of fusion of Formulation 6

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 6	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 1
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	12.3	111
Minimum	B	00:00:28	6.3	118
Inflection Point	G	00:03:34	11.8	139
Maximum	X	00:05:16	17.5	145
End	E	00:10:14	16.4	150

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	0.5	[kNm]
- Minimum to Maximum	B - X	: W2 =	9.6	[kNm]
- Maximum to End	X - E	: W3 =	16.2	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	10.2	[kNm]
- Loading Peal to End	A - E	: W5 =	26.3	[kNm]
Specific Energy (W5/Sample Weight)		: WG =	0.5	[kNm/g]
Gelation Area above B	(B - X)	: W7 =	3.8	[kNm]

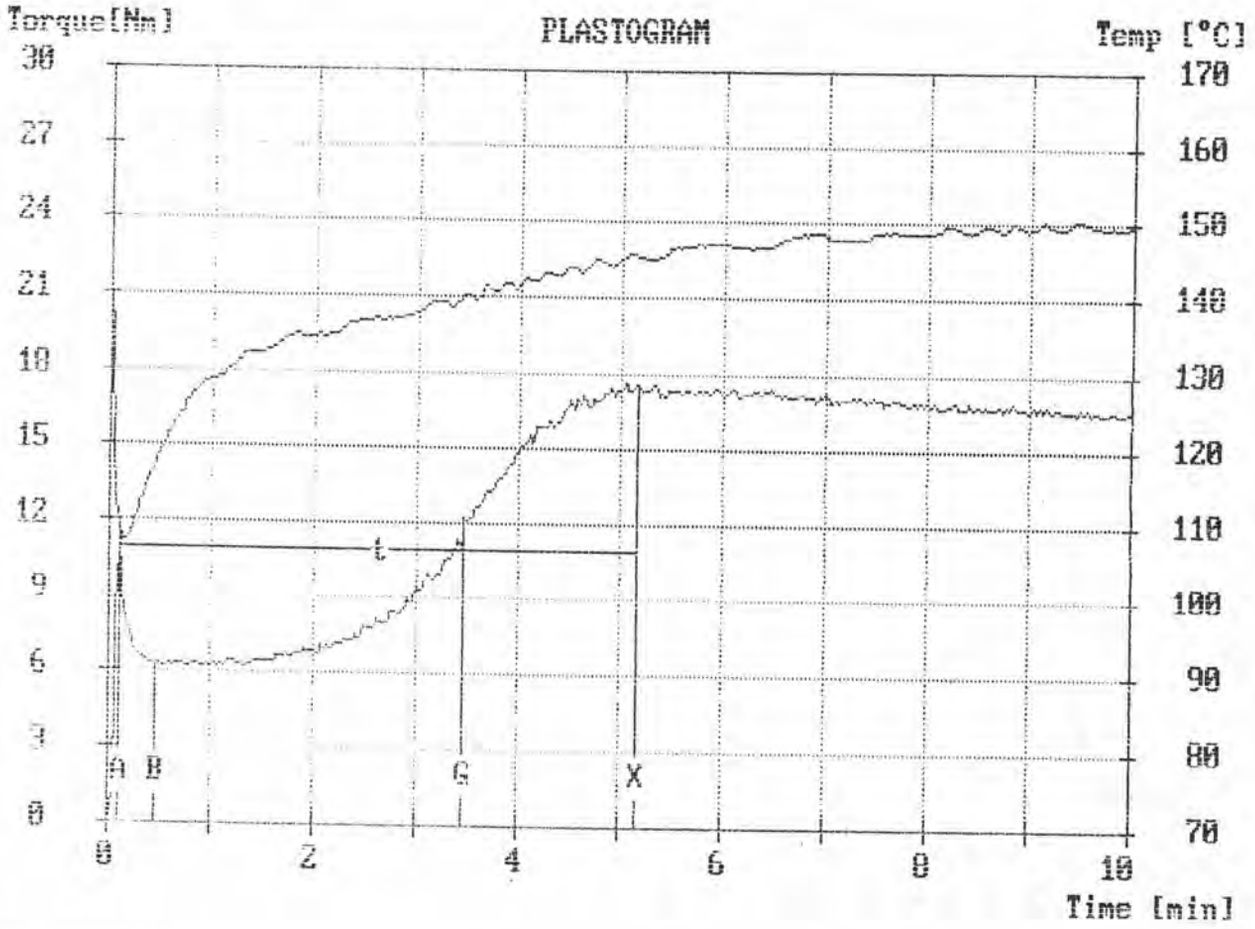
Results

- Fusion Time	A - X	: t =	00:05:12	
- Gelation Speed	G ± 20%	: v =	7.7	[Nm/min]

Table 17E: Data-Processing of fusion of Formulation 6

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 6	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 2
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:06	10.9	109
Minimum	B	00:00:28	6.3	118
Inflection Point	G	00:03:28	12.2	140
Maximum	X	00:05:10	17.6	146
End	E	00:15:00	16.0	152

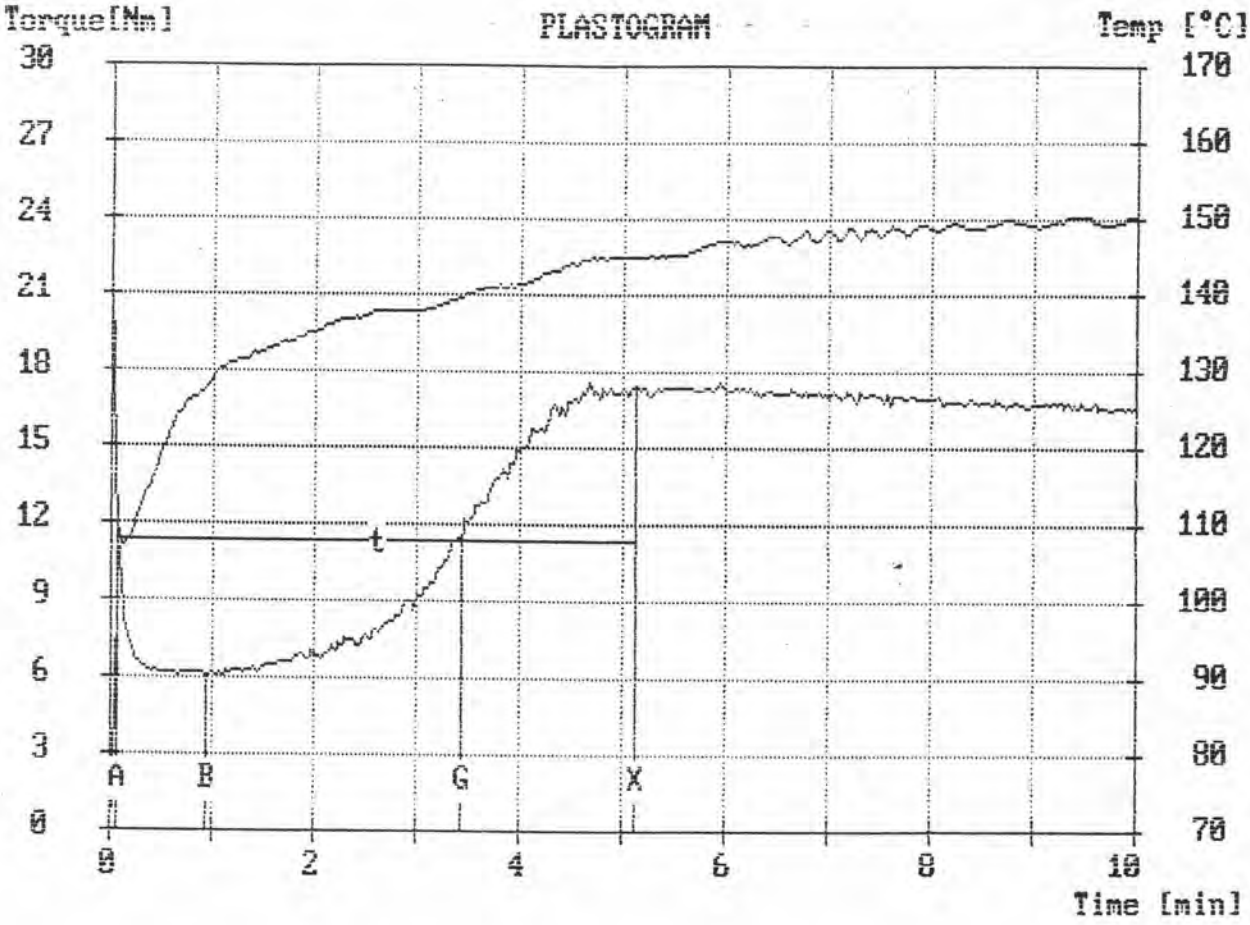
Integration / Energy				
Loading Peak to Minimum	A - B	: W1 =	0.5	[kNm]
Minimum to Maximum	B - X	: W2 =	9.4	[kNm]
Maximum to End	X - E	: W3 =	31.3	[kNm]
Loading Peak to Maximum	A - X	: W4 =	9.9	[kNm]
Loading Peak to End	A - E	: W5 =	41.2	[kNm]
Specific Energy (W5/Sample Weight)		: W6 =	0.8	[kNm/g]
Relation Area above B	(B - X)	: W7 =	3.8	[kNm]

Results				
Fusion Time	A - X	: t =	00:05:04	
Relation Speed	G ± 20%	: v =	7.5	[Nm/min]

Table 18E: Data-Processing of fusion of Formulation 6

Fusion Behavior

Test-Conditions			
Order	: FUSION BEHAVIOR	Mixer-Temp.	: 140 °C
Operator	: WANNA	Speed	: 30 rpm
Check-Date	: 12 Sep.'98	Meas. Range	: 30 Nm
PL-Type	: 2000-3	Zero-Suppr.	: 0 %
Mixer-Type	: W 50	Damping	: 3
Load Chute	: Manual +5 kg	Test-Time	: 10.0 min
Sample	: FORMULATION 6	Sample Weight	: 50.0 g
Additive	: DRY BLEND	Code Number	: 3
		Start-Temp.	: 140°C



Value		Time	Torque [Nm]	Stocktemp.[°C]
Loading Peak	A	00:00:04	11.3	109
Minimum	B	00:00:56	6.1	128
Inflection Point	G	00:03:26	11.5	140
Maximum	X	00:05:08	17.5	145
End	E	00:15:00	16.0	151

Integration / Energy

- Loading Peak to Minimum	A - B	: W1 =	1.1	[kNm]
- Minimum to Maximum	B - X	: W2 =	8.8	[kNm]
- Maximum to End	X - E	: W3 =	31.4	[kNm]
- Loading Peak to Maximum	A - X	: W4 =	9.8	[kNm]
- Loading Peak to End	A - E	: W5 =	41.2	[kNm]
- Specific Energy (W5/Sample Weight)		: W6 =	0.8	[kNm/g]
- Gelation Area above B	(B - X)	: W7 =	3.8	[kNm]

Results

- Fusion Time	A - X	: t =	00:05:04	
- Gelation Speed	G ± 20%	: =	7.1	[Nm/min]

Table 19E: Average of Torque and Time of Dry Blend of Formulation 1~6 at the Fusion Peak

Formulation	Torque (N.m)				Time (min)			
	1st	2nd	3rd	AVG.	1st	2nd	3rd	AVG.
1	18.00	17.90	17.80	17.90	1.44	2.00	1.52	1.65
2	13.70	13.70	13.70	13.70	2.32	2.28	2.20	2.27
3	13.60	13.70	13.80	13.70	3.00	3.00	2.58	2.86
4	13.30	13.00	13.10	13.13	2.44	2.44	2.44	2.44
5	13.50	13.50	13.50	13.50	2.42	2.46	2.46	2.45
6	17.50	17.60	17.50	17.53	5.16	5.10	5.08	5.11

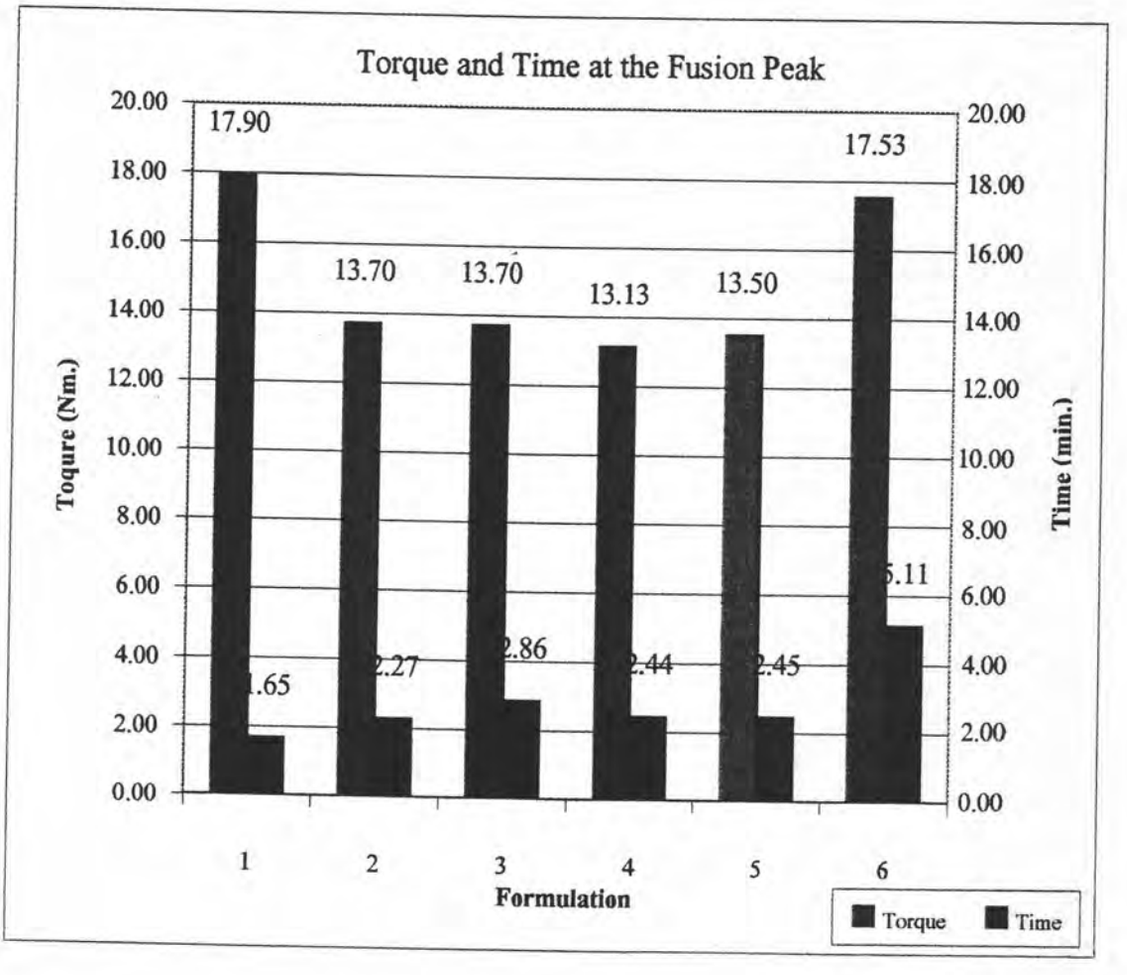
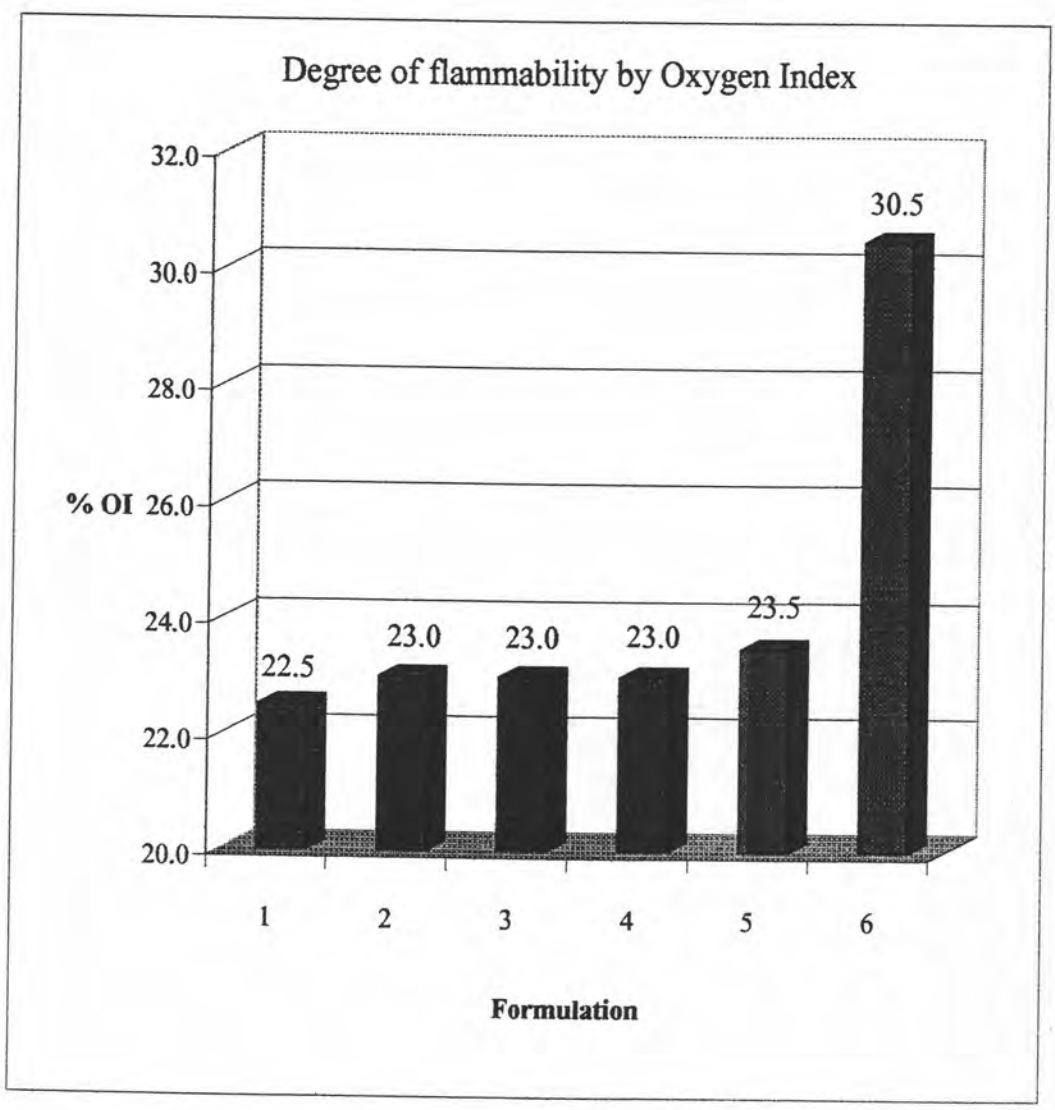


Table 20E: The degree of flammability by oxygen index (OI) method (ASTM D2863)

Formulation	% OI
1	22.5
2	23.0
3	23.0
4	23.0
5	23.5
6	30.5



APPENDIX F

Table 1F: %Retention of Tensile Stress of Formulation 1~6 after oil ageing at 70°C for 4 hr

Formulation	Type of Oil	Stress @ Break (kgf/mm^2)		% Retention
		Before	After	
1	Low Viscos. Motor Oil	1.839	1.694	92.12
	High Viscos. Motor Oil	1.839	1.781	96.86
	Low Viscos. Silicone Oil	1.839	1.755	95.43
	High Viscos. Silicone Oil	1.839	1.717	93.37
2	Low Viscos. Motor Oil	2.042	1.814	88.83
	High Viscos. Motor Oil	2.042	1.781	87.22
	Low Viscos. Silicone Oil	2.042	1.836	89.91
	High Viscos. Silicone Oil	2.042	1.773	86.83
3	Low Viscos. Motor Oil	2.047	1.797	87.79
	High Viscos. Motor Oil	2.047	1.795	87.69
	Low Viscos. Silicone Oil	2.047	1.846	90.18
	High Viscos. Silicone Oil	2.047	1.837	89.74
4	Low Viscos. Motor Oil	2.091	1.843	88.14
	High Viscos. Motor Oil	2.091	1.868	89.34
	Low Viscos. Silicone Oil	2.091	1.852	88.57
	High Viscos. Silicone Oil	2.091	1.839	87.95
5	Low Viscos. Motor Oil	2.202	1.838	83.47
	High Viscos. Motor Oil	2.202	1.907	86.60
	Low Viscos. Silicone Oil	2.202	1.866	84.74
	High Viscos. Silicone Oil	2.202	1.891	85.88
6	Low Viscos. Motor Oil	2.387	2.110	88.40
	High Viscos. Motor Oil	2.387	2.216	92.84
	Low Viscos. Silicone Oil	2.387	2.112	88.48
	High Viscos. Silicone Oil	2.387	2.217	92.88

Table 2F: Average of %Retention of Tensile Stress of Formulation 1~6 after oil ageing at 70°C for 4 hr

Formulation	%Retention of Tensile Stress			
	Low Vis. Motor Oil	High Vis. Motor Oil	Low Vis. Silicone Oil	High Vis. Silicone Oil
1	92.12	96.86	95.43	93.37
2	88.83	87.22	89.91	86.83
3	87.79	87.69	90.18	89.74
4	88.14	89.34	88.57	87.95
5	83.47	86.60	84.74	85.88
6	88.40	92.84	88.48	92.88

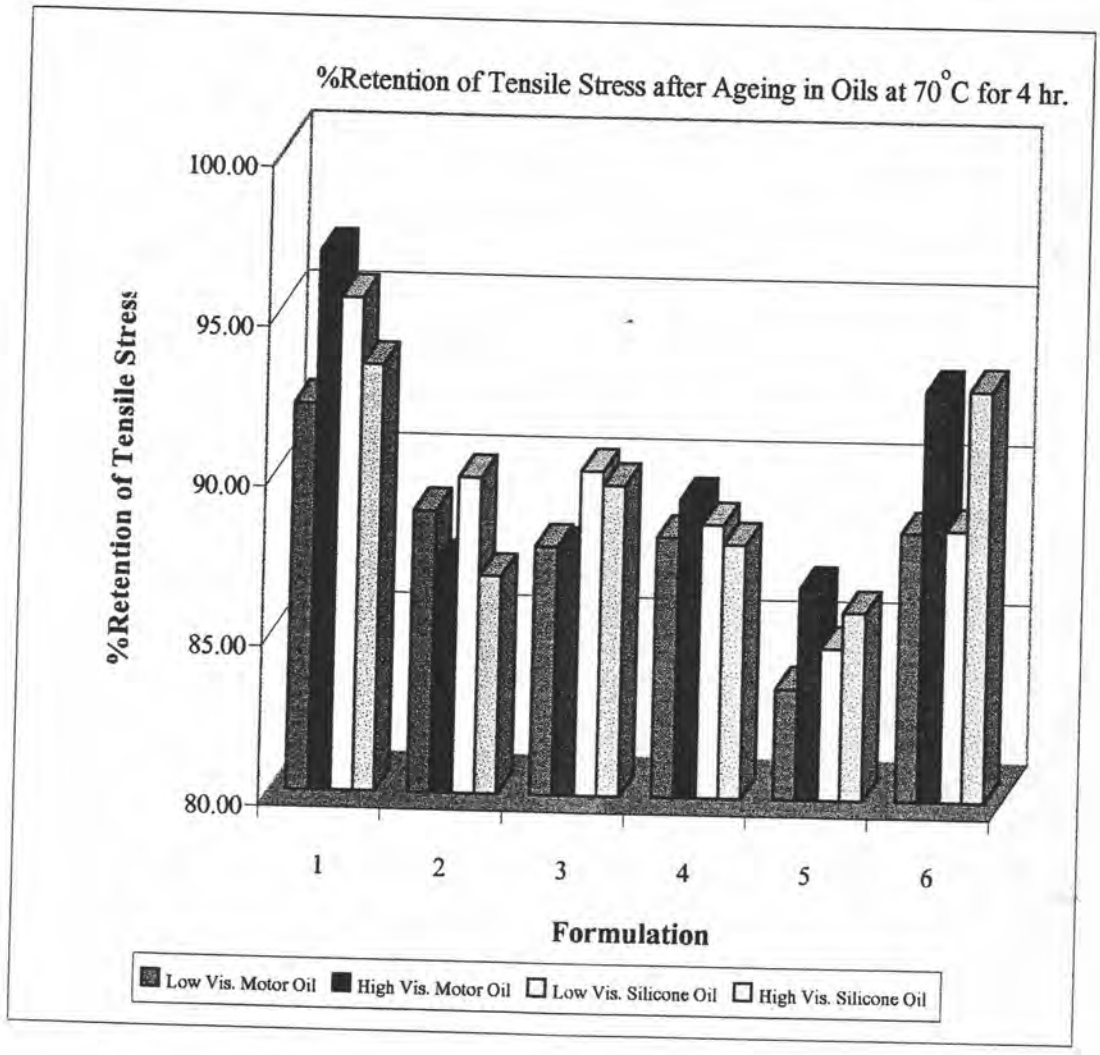


Table 3F: %Retention of Modulus of Formulation 1~6

after oil ageing at 70°C for 4 hr

Formulation	Type of Oil	Modulus (kgf/mm^2)		% Retention
		Before	After	
1	Low Viscos. Motor Oil	1.288	1.360	105.59
	High Viscos. Motor Oil	1.288	1.329	103.18
	Low Viscos. Silicone Oil	1.288	1.403	108.93
	High Viscos. Silicone Oil	1.288	1.368	106.21
2	Low Viscos. Motor Oil	1.472	1.538	104.48
	High Viscos. Motor Oil	1.472	1.503	102.11
	Low Viscos. Silicone Oil	1.472	1.488	101.09
	High Viscos. Silicone Oil	1.472	1.542	104.76
3	Low Viscos. Motor Oil	1.459	1.416	97.05
	High Viscos. Motor Oil	1.459	1.455	99.73
	Low Viscos. Silicone Oil	1.459	1.459	100.00
	High Viscos. Silicone Oil	1.459	1.439	98.63
4	Low Viscos. Motor Oil	1.511	1.494	98.87
	High Viscos. Motor Oil	1.511	1.499	99.21
	Low Viscos. Silicone Oil	1.511	1.554	102.85
	High Viscos. Silicone Oil	1.511	1.485	98.28
5	Low Viscos. Motor Oil	1.475	1.574	106.71
	High Viscos. Motor Oil	1.475	1.467	99.46
	Low Viscos. Silicone Oil	1.475	1.462	99.12
	High Viscos. Silicone Oil	1.475	1.523	103.25
6	Low Viscos. Motor Oil	2.364	2.204	93.23
	High Viscos. Motor Oil	2.364	2.434	102.96
	Low Viscos. Silicone Oil	2.364	2.257	95.47
	High Viscos. Silicone Oil	2.364	2.377	100.55

Table 4F: Average of %Retention of Modulus of Formulation 1~6 after oil ageing at 70°C for 4 hr

Formulation	%Retention of Modulus			
	Low Vis. Motor Oil	High Vis. Motor Oil	Low Vis. Silicone Oil	High Vis. Silicone Oil
1	105.59	103.18	108.93	106.21
2	104.48	102.11	101.09	104.76
3	97.05	99.73	100.00	98.63
4	98.87	99.21	102.85	98.28
5	106.71	99.46	99.12	103.25
6	93.23	102.96	95.47	100.55

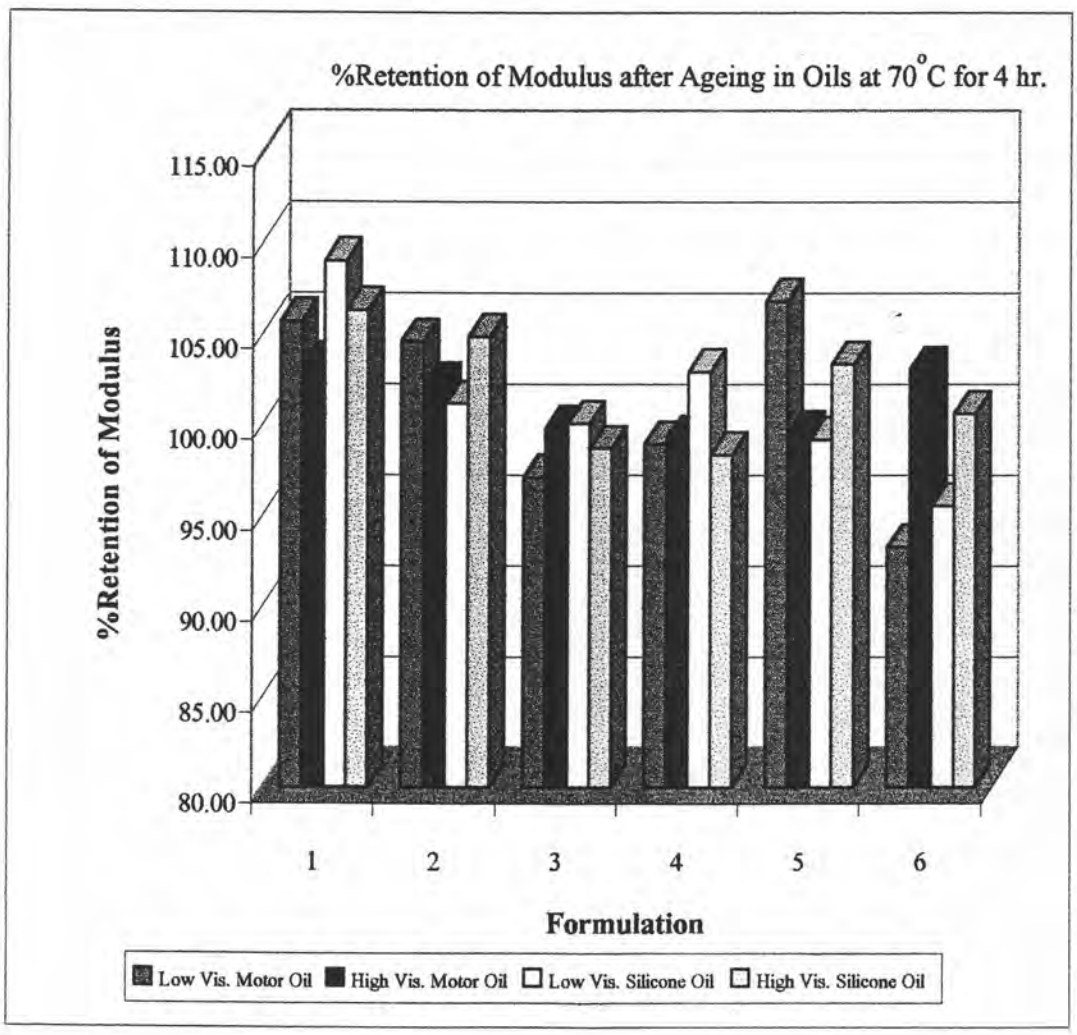


Table 5F: %Retention of Elongation of Formulation 1~6 after oil ageing at 70°C for 4 hr

Formulation	Type of Oil	Elongation (kgf/mm^2)		% Retention
		Before	After	
1	Low Viscos. Motor Oil	300.6	261.8	87.09
	High Viscos. Motor Oil	300.6	278.2	92.54
	Low Viscos. Silicone Oil	300.6	264.0	87.82
	High Viscos. Silicone Oil	300.6	262.0	87.16
2	Low Viscos. Motor Oil	311.6	266.7	85.59
	High Viscos. Motor Oil	311.6	278.6	89.41
	Low Viscos. Silicone Oil	311.6	265.0	85.04
	High Viscos. Silicone Oil	311.6	262.3	84.18
3	Low Viscos. Motor Oil	291.8	274.2	93.97
	High Viscos. Motor Oil	291.8	272.3	93.32
	Low Viscos. Silicone Oil	291.8	265.0	90.82
	High Viscos. Silicone Oil	291.8	259.1	88.79
4	Low Viscos. Motor Oil	296.7	274.2	92.42
	High Viscos. Motor Oil	296.7	278.4	93.83
	Low Viscos. Silicone Oil	296.7	270.8	91.27
	High Viscos. Silicone Oil	296.7	269.1	90.70
5	Low Viscos. Motor Oil	305.5	274.7	89.92
	High Viscos. Motor Oil	305.5	278.4	91.13
	Low Viscos. Silicone Oil	305.5	277.9	90.97
	High Viscos. Silicone Oil	305.5	282.3	92.41
6	Low Viscos. Motor Oil	252.1	216.2	85.76
	High Viscos. Motor Oil	252.1	248.1	98.41
	Low Viscos. Silicone Oil	252.1	230.3	91.35
	High Viscos. Silicone Oil	252.1	222.5	88.26

Table 6F: Average of %Retention of Elongation of Formulation 1~6 after oil ageing at 70°C for 4 hr

Formulation	%Retention of Elongation			
	Low Vis. Motor Oil	High Vis. Motor Oil	Low Vis. Silicone Oil	High Vis. Silicone Oil
1	87.09	92.54	87.82	87.16
2	85.59	89.41	85.04	84.18
3	93.97	93.32	90.82	88.79
4	92.42	93.83	91.27	90.70
5	89.92	91.13	90.97	92.41
6	85.76	98.41	91.35	88.26

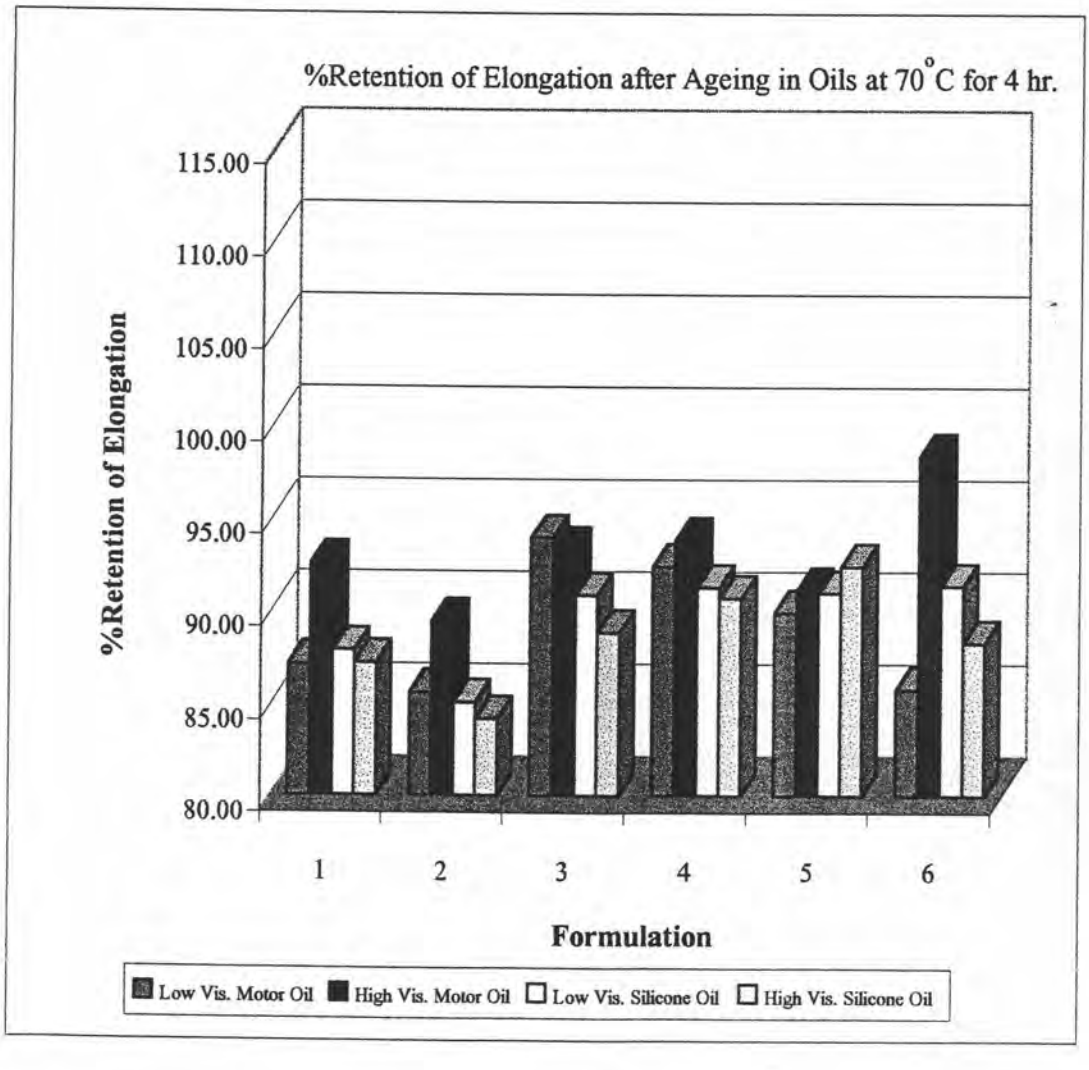
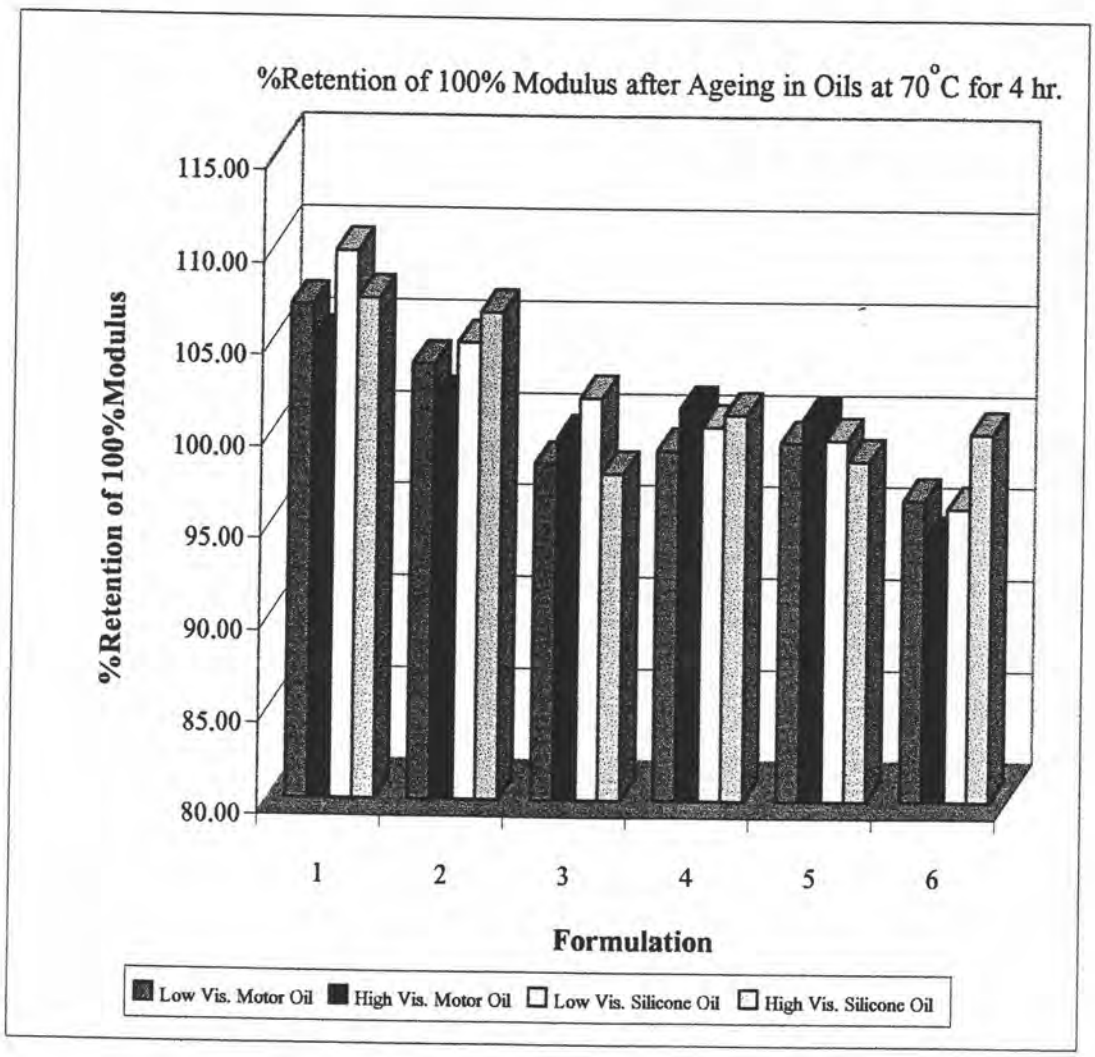


Table 7F: %Retention of 100% Modulus of Formulation 1~6 after oil ageing at 70°C for 4 hr

Formulation	Type of Oil	100% Modulus (kgf/mm^2)		% Retention
		Before	After	
1	Low Viscos. Motor Oil	1.022	1.092	**106.85**
	High Viscos. Motor Oil	1.022	1.073	**104.99**
	Low Viscos. Silicone Oil	1.022	1.122	**109.78**
	High Viscos. Silicone Oil	1.022	1.096	**107.24**
2	Low Viscos. Motor Oil	1.136	1.178	**103.70**
	High Viscos. Motor Oil	1.136	1.156	**101.76**
	Low Viscos. Silicone Oil	1.136	1.191	**104.84**
	High Viscos. Silicone Oil	1.136	1.210	**106.51**
3	Low Viscos. Motor Oil	1.167	1.147	**98.29**
	High Viscos. Motor Oil	1.167	1.164	**99.74**
	Low Viscos. Silicone Oil	1.167	1.189	**101.89**
	High Viscos. Silicone Oil	1.167	1.141	**97.77**
4	Low Viscos. Motor Oil	1.173	1.162	**99.06**
	High Viscos. Motor Oil	1.173	1.189	**101.36**
	Low Viscos. Silicone Oil	1.173	1.177	**100.34**
	High Viscos. Silicone Oil	1.173	1.185	**101.02**
5	Low Viscos. Motor Oil	1.223	1.217	**99.51**
	High Viscos. Motor Oil	1.223	1.233	**100.82**
	Low Viscos. Silicone Oil	1.223	1.219	**99.67**
	High Viscos. Silicone Oil	1.223	1.205	**98.53**
6	Low Viscos. Motor Oil	1.893	1.825	**96.41**
	High Viscos. Motor Oil	1.893	1.786	**94.35**
	Low Viscos. Silicone Oil	1.893	1.817	**95.99**
	High Viscos. Silicone Oil	1.893	1.894	**100.05**

Table 8F: Average of %Retention of 100% Modulus of Formulation 1~6 after oil ageing at 70°C for 4 hr

Formulation	%Retention of 100% Modulus			
	Low Vis. Motor Oil	High Vis. Motor Oil	Low Vis. Silicone Oil	High Vis. Silicone Oil
1	106.85	104.99	109.78	107.24
2	103.70	101.76	104.84	106.51
3	98.29	99.74	101.89	97.77
4	99.06	101.36	100.34	101.02
5	99.51	100.82	99.67	98.53
6	96.41	94.35	95.99	100.05



BIOGRAPHY

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By	: Ms. Wanna Yoksuwan
Program	: Petrochemistry and Polymer Science
Thesis Advisor	: Associate Professor Supawan Tantayanon, Ph.D.
Thesis Co-advisor	: Ms. Wilaiporn Chetanachan, Ph.D.

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