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Appendix 1.a – Data Collected to Investigate Linear and Area Dimensional Changes at Various Relaxation Treatments of Low Stitch Length

After Dry Relax

Sample #	L1(cm)	L2(cm)	L3(cm)	W1(cm)	W2(cm)	W3(cm)	AVG L	L-Shrin	AVG W	W-Shrin	ADC
1	33.00	33.00	32.80	33.10	33.00	33.00	32.93	5.90	33.03	5.62	11.19
2	32.80	33.10	33.20	32.60	33.80	33.60	33.03	5.62	33.33	4.76	10.11
3	32.50	32.70	32.80	33.50	33.10	32.80	32.67	6.67	33.13	5.33	11.64
4	32.40	33.40	33.80	33.10	33.00	32.90	33.20	5.14	33.00	5.71	10.56
5	33.00	33.50	33.50	33.40	33.30	32.10	33.33	4.76	32.93	5.90	10.39
6	33.30	33.50	33.50	33.40	32.20	33.30	33.43	4.48	32.97	5.81	10.03
7	33.60	32.90	32.50	33.10	32.80	32.70	33.00	5.71	32.87	6.10	11.46
Avg	32.94	33.16	33.16	33.17	33.03	32.91	33.09	5.47	33.04	5.61	10.77
STDEV	0.42	0.32	0.47	0.30	0.49	0.47	0.26	0.74	0.15	0.44	0.66

After Wet Relax

Sample #	L1(cm)	L2(cm)	L3(cm)	W1(cm)	W2(cm)	W3(cm)	AVG L	L-Shrin	AVG W	W-Shrin	ADC
1	31.30	30.00	30.50	29.90	29.80	29.40	30.60	12.57	29.70	15.14	25.81
2	30.90	30.40	30.20	30.20	30.70	30.30	30.50	12.86	30.40	13.14	24.31
3	31.50	30.40	30.00	29.60	29.50	30.40	30.63	12.48	29.83	14.76	25.40
4	30.20	31.50	31.50	29.60	29.50	29.40	31.07	11.24	29.50	15.71	25.19
5	31.10	30.60	31.10	29.10	29.80	30.30	30.93	11.62	29.73	15.05	24.92
6	31.30	30.60	31.00	30.30	30.10	29.30	30.97	11.52	29.90	14.57	24.42
7	30.40	31.40	30.00	29.80	29.50	30.50	30.60	12.57	29.93	14.48	25.23
Avg	30.96	30.70	30.61	29.79	29.84	29.94	30.76	12.12	29.86	14.69	25.04
STDEV	0.49	0.55	0.59	0.41	0.44	0.54	0.22	0.64	0.28	0.80	0.53

After Finish Relax

Sample #	L1(cm)	L2(cm)	L3(cm)	W1(cm)	W2(cm)	W3(cm)	AVG L	L-Shrin	AVG W	W-Shrin	ADC
1	29.40	29.20	28.50	29.20	28.50	28.30	29.03	17.05	28.67	18.10	32.06
2	28.50	28.90	28.50	29.40	29.30	28.80	28.63	18.19	29.17	16.67	31.83
3	28.60	29.20	28.50	28.50	28.30	29.20	28.77	17.81	28.67	18.10	32.68
4	28.60	29.90	29.00	28.20	28.20	28.20	29.17	16.67	28.20	19.43	32.86
5	29.30	28.80	29.30	28.30	28.50	28.80	29.13	16.76	28.53	18.48	32.14
6	29.30	29.80	28.90	28.20	28.80	28.20	29.33	16.19	28.40	18.86	31.99
7	28.00	29.30	29.30	28.20	29.20	28.30	28.87	17.52	28.57	18.38	32.68
Avg	28.81	29.30	28.86	28.57	28.69	28.54	28.99	17.17	28.60	18.29	32.32
STDEV	0.53	0.42	0.36	0.51	0.43	0.39	0.25	0.70	0.30	0.85	0.41

Appendix 1.b – Data Collected to Investigate Linear and Area Dimensional Changes at Various Relaxation Treatments of Medium Stitch Length

After Dry Relax

Sample #	L1(cm)	L2(cm)	L3(cm)	W1(cm)	W2(cm)	W3(cm)	AVG L	L-Shrin	AVG W	W-Shrin	ADC
1	32.00	33.00	32.00	34.00	34.00	33.80	32.33	7.62	33.93	3.05	10.43
2	32.00	32.40	32.50	34.00	33.90	34.60	32.30	7.71	34.17	2.38	9.91
3	32.50	32.70	33.30	33.60	33.80	34.00	32.83	6.19	33.80	3.43	9.41
4	33.00	32.80	32.20	33.60	33.90	34.20	32.67	6.67	33.90	3.14	9.60
5	32.80	33.00	32.70	34.10	34.00	33.60	32.83	6.19	33.90	3.14	9.14
6	32.10	32.40	32.40	34.00	33.70	34.00	32.30	7.71	33.90	3.14	10.61
7	32.60	33.00	32.70	34.20	33.70	34.10	32.77	6.38	34.00	2.86	9.06
Avg	32.43	32.76	32.54	33.93	33.86	34.04	32.58	6.93	33.94	3.02	9.74
STDEV	0.40	0.27	0.42	0.24	0.13	0.32	0.25	0.73	0.12	0.33	0.61

After Wet Relax

Sample #	L1(cm)	L2(cm)	L3(cm)	W1(cm)	W2(cm)	W3(cm)	AVG L	L-Shrin	AVG W	W-Shrin	ADC
1	28.40	28.00	28.40	34.10	33.20	34.10	28.27	19.24	33.80	3.43	22.01
2	28.70	28.40	29.20	33.40	33.60	33.80	28.77	17.81	33.60	4.00	21.10
3	28.80	28.60	29.50	33.50	33.00	33.50	28.97	17.24	33.33	4.76	21.18
4	28.50	28.00	28.50	34.50	33.00	34.40	28.33	19.05	33.97	2.95	21.44
5	29.30	28.40	29.00	33.50	33.00	33.20	28.90	17.43	33.23	5.05	21.60
6	28.90	28.50	29.30	33.20	33.20	33.00	28.90	17.43	33.13	5.33	21.83
7	28.50	28.60	29.00	34.00	33.10	33.50	28.70	18.00	33.53	4.19	21.44
Avg	28.73	28.36	28.99	33.74	33.16	33.64	28.69	18.03	33.51	4.24	21.51
STDEV	0.31	0.26	0.41	0.46	0.21	0.49	0.28	0.81	0.30	0.87	0.33

After Finish Relax

Sample #	L1(cm)	L2(cm)	L3(cm)	W1(cm)	W2(cm)	W3(cm)	AVG L	L-Shrin	AVG W	W-Shrin	ADC
1	26.20	26.20	26.20	33.50	32.20	33.50	26.20	25.14	33.07	5.52	29.28
2	26.30	26.30	26.70	32.70	32.00	32.80	26.43	24.48	32.50	7.14	29.87
3	27.20	26.20	26.50	32.50	32.20	32.70	26.63	23.90	32.47	7.24	29.41
4	27.30	26.00	27.00	32.50	32.00	32.50	26.77	23.52	32.33	7.62	29.35
5	27.00	26.10	26.50	33.50	33.00	32.60	26.53	24.19	33.03	5.62	28.45
6	27.00	25.70	26.00	33.00	32.00	33.50	26.23	25.05	32.83	6.19	29.69
7	26.50	27.00	27.50	32.50	32.00	32.50	27.00	22.86	32.33	7.62	28.73
Avg	26.79	26.21	26.63	32.89	32.20	32.87	26.54	24.16	32.65	6.71	29.25
STDEV	0.45	0.40	0.50	0.46	0.37	0.44	0.29	0.82	0.32	0.91	0.50

Appendix 1.c – Data Collected to Investigate Linear and Area Dimensional Changes at Various Relaxation Treatments of High Stitch Length

After Dry Relax

Sample #	L1(cm)	L2(cm)	L3(cm)	W1(cm)	W2(cm)	W3(cm)	AVG L	L-Shrin	AVG W	W-Shrin	ADC
1	33.10	33.40	33.40	34.40	34.50	34.30	33.30	4.86	34.40	1.71	6.49
2	33.10	33.50	33.60	34.00	34.40	34.30	33.40	4.57	34.23	2.19	6.66
3	33.60	33.60	34.00	34.20	34.30	34.50	33.73	3.62	34.33	1.90	5.45
4	33.20	33.20	33.50	34.40	34.00	34.10	33.30	4.86	34.17	2.38	7.12
5	33.80	33.20	33.80	34.50	34.40	34.20	33.60	4.00	34.37	1.81	5.74
6	33.70	33.00	33.50	34.60	34.90	34.40	33.40	4.57	34.63	1.05	5.57
7	33.30	33.10	33.50	34.00	34.60	34.50	33.30	4.86	34.37	1.81	6.58
Avg	33.40	33.29	33.61	34.30	34.44	34.33	33.43	4.48	34.36	1.84	6.23
STDEV	0.29	0.22	0.21	0.24	0.28	0.15	0.17	0.49	0.15	0.42	0.64

After Wet Relax

Sample #	L1(cm)	L2(cm)	L3(cm)	W1(cm)	W2(cm)	W3(cm)	AVG L	L-Shrin	AVG W	W-Shrin	ADC
1	28.90	28.00	28.20	38.90	39.00	38.40	28.37	18.95	38.77	-10.76	10.23
2	28.80	28.90	28.70	38.70	38.80	38.60	28.80	17.71	38.70	-10.57	9.02
3	28.40	28.70	28.40	39.20	39.00	38.50	28.50	18.57	38.90	-11.14	9.50
4	28.00	28.90	29.00	39.40	38.50	38.90	28.63	18.19	38.93	-11.24	9.00
5	28.40	28.80	28.90	39.90	39.00	38.80	28.70	18.00	39.23	-12.10	8.08
6	28.80	28.50	28.30	39.70	39.90	38.40	28.53	18.48	39.33	-12.38	8.38
7	28.40	28.20	27.80	38.80	39.70	38.20	28.13	19.62	38.90	-11.14	10.66
Avg	28.33	28.83	28.59	39.60	39.24	38.40	28.52	18.50	38.97	-11.33	9.27
STDEV	0.32	0.35	0.42	0.46	0.50	0.24	0.22	0.64	0.23	0.67	0.94

After Finish Relax

Sample #	L1(cm)	L2(cm)	L3(cm)	W1(cm)	W2(cm)	W3(cm)	AVG L	L-Shrin	AVG W	W-Shrin	ADC
1	24.00	23.50	24.00	40.80	39.50	39.50	23.83	31.90	39.93	-14.10	22.31
2	24.00	24.00	24.50	39.30	39.50	40.00	24.17	30.95	39.60	-13.14	21.88
3	24.00	24.00	24.00	39.50	39.50	39.00	24.00	31.43	39.33	-12.38	22.94
4	24.50	23.80	24.40	40.70	39.50	40.50	24.23	30.76	40.23	-14.95	20.41
5	24.50	23.60	24.50	39.70	39.50	39.60	24.20	30.86	39.60	-13.14	21.77
6	24.50	24.00	24.50	39.00	39.70	40.00	24.33	30.48	39.57	-13.05	21.40
7	24.00	23.50	24.90	40.50	39.00	39.50	24.13	31.05	39.67	-13.33	21.85
Avg	24.21	23.77	24.40	39.93	39.46	39.73	24.13	31.06	39.70	-13.44	21.79
STDEV	0.27	0.24	0.32	0.73	0.21	0.48	0.16	0.47	0.29	0.83	0.78

Appendix 2.a Data collected to Investigate Structural Parameter and Dimensional Constants Changes at Various Relaxation Treatments of Low Stitch Length

Before Dry Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	7.40	10.20	75.48	3.85	5.30	20.41	1.38
2	7.70	10.50	80.85	4.00	5.46	21.86	1.36
3	7.60	10.40	79.04	3.95	5.41	21.37	1.37
4	7.60	10.70	81.32	3.95	5.56	21.99	1.41
5	7.40	10.50	77.70	3.85	5.46	21.01	1.42
6	7.40	10.30	76.22	3.85	5.36	20.61	1.39
7	7.50	10.40	78.00	3.90	5.41	21.09	1.39
Avg	7.51	10.43	78.37	3.91	5.42	21.19	1.39
STDEV	0.16	2.19	0.06	0.08	0.59	0.02	0.00

After Dry Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	7.70	10.90	83.93	4.00	5.67	22.69	1.42
2	7.90	10.90	86.11	4.11	5.67	23.28	1.38
3	7.90	11.00	86.90	4.11	5.72	23.50	1.39
4	8.00	11.10	88.80	4.16	5.77	24.01	1.39
5	7.90	10.90	86.11	4.11	5.67	23.28	1.38
6	7.70	10.50	80.85	4.00	5.46	21.85	1.37
7	7.70	11.00	84.70	4.00	5.72	22.90	1.43
Avg	7.83	10.90	85.34	4.07	5.67	23.07	1.39
STDEV	0.13	0.19	2.52	0.07	0.10	0.69	0.02

After Wet Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	8.50	11.40	96.90	4.42	5.93	26.20	1.34
2	8.70	11.80	102.66	4.52	6.14	27.76	1.36
3	8.60	11.90	102.34	4.47	6.19	27.67	1.38
4	8.50	11.90	101.15	4.42	6.19	27.35	1.40
5	8.60	11.70	100.62	4.47	6.08	27.21	1.36
6	8.40	11.50	96.60	4.37	5.98	26.12	1.37
7	8.50	11.60	98.60	4.42	6.03	26.66	1.36
Avg	8.54	11.69	99.84	4.44	6.08	27.00	1.37
STDEV	0.10	0.20	2.49	0.05	0.10	0.67	0.02

After Finish Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	9.00	12.10	108.90	4.68	6.29	29.45	1.34
2	9.10	12.50	113.75	4.73	6.50	30.76	1.37
3	9.10	12.40	112.84	4.73	6.45	30.51	1.36
4	9.30	12.20	113.46	4.84	6.34	30.68	1.31
5	9.10	12.50	113.75	4.73	6.50	30.76	1.37
6	9.10	12.20	111.02	4.73	6.34	30.02	1.34
7	9.00	12.00	108.00	4.68	6.24	29.20	1.33
Avg	9.10	12.27	111.67	4.73	6.38	30.20	1.35
STDEV	0.10	0.20	2.41	0.05	0.10	0.65	0.02

Appendix 2.b Data collected to Investigate Structural Parameter and Dimensional Constants Changes at Various Relaxation Treatments of Medium Stitch Length

Before Dry Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	6.80	6.60	44.88	4.35	4.22	18.38	0.97
2	6.80	6.50	44.20	4.35	4.16	18.10	0.96
3	6.70	6.50	43.55	4.29	4.16	17.84	0.97
4	6.60	6.50	42.90	4.22	4.16	17.57	0.98
5	6.70	6.50	43.55	4.29	4.16	17.84	0.97
6	6.70	6.60	44.22	4.29	4.22	18.11	0.99
7	6.70	6.60	44.22	4.29	4.22	18.11	0.99
Avg	6.71	6.54	43.93	4.30	4.19	17.99	0.97
STDEV	0.07	0.05	0.64	0.04	0.03	0.26	0.01

After Dry Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	7.00	6.90	48.30	4.48	4.42	19.78	0.99
2	6.90	6.60	45.54	4.42	4.22	18.65	0.96
3	6.90	6.70	46.23	4.42	4.29	18.94	0.97
4	6.90	6.80	46.92	4.42	4.35	19.22	0.99
5	6.90	6.60	45.54	4.42	4.22	18.65	0.96
6	7.00	7.00	49.00	4.48	4.48	20.07	1.00
7	7.00	6.90	48.30	4.48	4.42	19.78	0.99
Avg	6.94	6.79	47.12	4.44	4.34	19.30	0.98
STDEV	0.05	0.16	1.42	0.03	0.10	0.58	0.02

After Wet Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	6.90	8.10	55.89	4.42	5.18	22.89	1.17
2	7.00	7.70	53.90	4.48	4.93	22.08	1.10
3	6.90	7.80	53.82	4.42	4.99	22.04	1.13
4	6.80	7.90	53.72	4.35	5.06	22.00	1.16
5	7.00	7.80	54.60	4.48	4.99	22.36	1.11
6	7.20	8.00	57.60	4.61	5.12	23.59	1.11
7	7.30	7.90	57.67	4.67	5.06	23.62	1.08
Avg	7.01	7.89	55.31	4.49	5.05	22.66	1.12
STDEV	0.18	0.13	1.75	0.11	0.09	0.72	0.03

After Finish Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	7.00	9.00	63.00	4.48	5.76	25.80	1.29
2	7.00	8.70	60.90	4.48	5.57	24.95	1.24
3	7.00	8.50	59.50	4.48	5.44	24.37	1.21
4	7.00	8.50	59.50	4.48	5.44	24.37	1.21
5	7.00	9.00	63.00	4.48	5.76	25.80	1.29
6	7.00	9.00	63.00	4.48	5.76	25.80	1.29
7	7.30	8.90	64.97	4.67	5.70	26.62	1.22
Avg	7.04	8.80	61.98	4.51	5.63	25.39	1.25
STDEV	0.11	0.23	2.06	0.07	0.15	0.85	0.03

Appendix 2.c Data collected to Investigate Structural Parameter and Dimensional Constants Changes at Various Relaxation Treatments of High Stitch Length

Before Dry Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	6.20	5.10	31.60	4.77	3.93	24.33	3.68
2	6.00	5.00	30.00	4.62	3.85	17.79	0.83
3	6.10	5.00	30.50	4.70	3.85	18.08	0.82
4	6.20	5.00	31.00	4.77	3.85	18.38	0.81
5	6.20	4.70	29.15	4.77	3.62	17.28	0.76
6	6.10	4.60	28.05	4.70	3.54	16.64	0.75
7	6.10	4.50	27.45	4.70	3.47	16.28	0.74
Avg	6.13	4.84	29.68	4.72	3.73	18.40	1.20
STDEV	0.08	0.24	1.53	0.06	0.18	2.72	1.09

After Dry Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	6.70	5.20	34.84	5.16	4.00	20.66	0.78
2	6.70	5.20	34.84	5.16	4.00	20.66	0.78
3	6.50	5.20	33.80	5.01	4.00	20.04	0.80
4	6.60	5.00	33.00	5.08	3.85	19.57	0.76
5	6.50	4.90	31.85	5.01	3.77	18.88	0.75
6	6.60	5.00	33.00	5.08	3.85	19.57	0.76
7	6.20	5.00	31.00	4.77	3.85	18.38	0.81
Avg	6.54	5.07	33.19	5.04	3.91	19.68	0.78
STDEV	0.17	0.13	1.44	0.13	0.10	0.86	0.02

After Wet Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	5.80	6.20	35.96	4.47	4.77	21.32	1.07
2	5.80	6.20	35.96	4.47	4.77	21.32	1.07
3	5.80	6.30	36.54	4.47	4.85	21.66	1.09
4	5.60	6.00	33.60	4.31	4.62	19.92	1.00
5	5.50	5.70	31.35	4.24	4.39	18.59	1.00
6	5.60	5.90	33.04	4.31	4.54	19.59	1.06
7	5.60	5.70	31.92	4.31	4.39	18.93	1.02
Avg	5.67	6.00	34.05	4.37	4.62	20.19	1.04
STDEV	0.13	0.24	2.10	0.10	0.19	1.25	0.04

After Finish Relax

Sample #	wpc	cpc	StitchD	Kw	Kc	Ks	Kp
1	5.70	6.80	38.76	4.39	5.24	22.98	1.19
2	5.80	7.00	40.60	4.47	5.39	24.07	1.21
3	5.80	6.80	39.44	4.47	5.24	23.38	1.17
4	5.50	6.90	37.95	4.24	5.31	22.50	1.25
5	5.90	6.80	40.12	4.54	5.24	23.79	1.15
6	5.80	6.60	38.28	4.47	5.08	22.70	1.14
7	5.80	6.80	39.44	4.47	5.24	23.38	1.17
Avg	5.76	6.81	39.23	4.43	5.25	23.26	1.18
STDEV	0.13	0.12	0.96	0.10	0.09	0.57	0.04

