

# Air Moistening in Textile Mills

In the June issue of TEXTILES we gave a tabulation of the moisture regain, as determined by Schloesing, for silk at the three temperatures, 54°, 75° and 95° and at each degree of relative humidity from 1 to 95 per cent., also a chart showing the moisture in silk in process of manufacture during March, April and May in a mill heated to 70° when the outside temperature falls below that point and without artificial moistening of the air, the data being obtained from Schloesing's tables and the U. S. Weather Bureau observations at New York, for the year ending February, 1918. The accompanying chart shows the moisture regain for silk under the same mill conditions for June, July and August of the

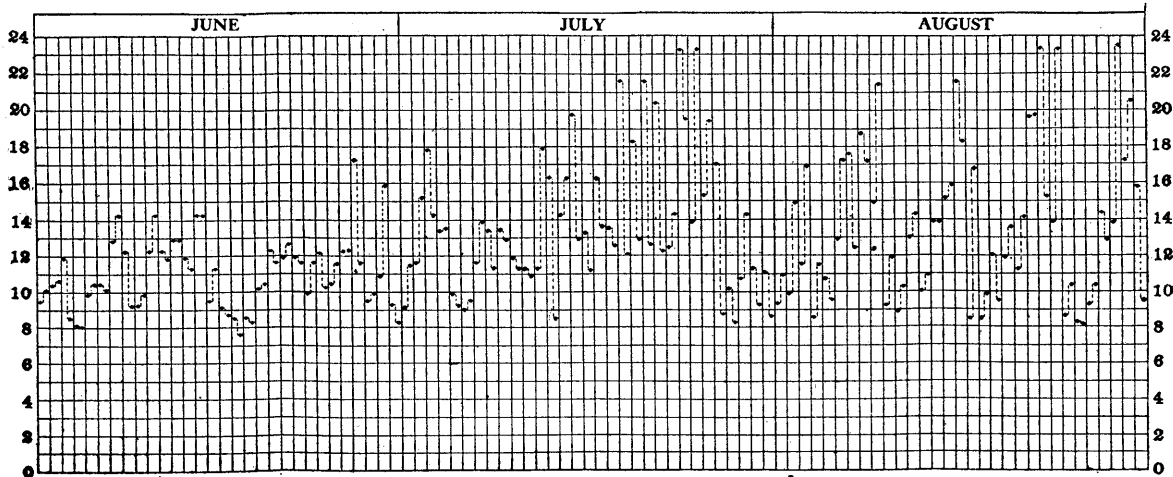
moisture regain of 23.5 parts per 100 parts of dry silk. At this time the daily fluctuations are particularly violent, as will be seen by referring to Aug. 24, with a regain of 13.8 parts in the forenoon and 23.5 parts in the afternoon.

These figures show plainly without further explanation the effect of the weather on the moisture in silk in process of manufacture, and the necessity of keeping the relative humidity of the air uniform in the work rooms in order to obtain uniform results in manufacturing silk goods.

The accompanying table gives the readings of Schloesing chart of moisture regain for cotton for the three temperatures, 54°, 75° and 95°, at relative humidities from 1 to 96

## Moisture Regain for Cotton

At 54°, 75° and 95° F., and Relative Humidity from 1 to 95%.											
%	54°	75°	95°	%	54°	75°	95°	%	54°	75°	95°
1	.45	.40	.35	20	3.80	3.58	3.46	39	5.47	5.08	4.80
2	.81	.75	.70	21	3.90	3.68	3.52	40	5.53	5.15	4.86
3	1.14	1.07	1.01	22	4.00	3.75	3.60	41	5.62	5.22	4.91
4	1.40	1.32	1.26	23	4.10	3.85	3.67	42	5.70	5.31	4.98
5	1.64	1.55	1.49	24	4.20	3.93	3.75	43	5.78	5.40	5.07
6	1.90	1.80	1.73	25	4.28	4.00	3.82	44	5.83	5.48	5.12
7	2.10	2.00	1.93	26	4.35	4.05	3.90	45	5.92	5.53	5.20
8	2.25	2.18	2.10	27	4.47	4.07	3.98	46	6.00	5.63	5.27
9	2.42	2.32	2.27	28	4.55	4.23	4.05	47	6.07	5.70	5.32
10	2.57	2.50	2.40	29	4.62	4.32	4.12	48	6.12	5.80	5.42
11	2.72	2.66	2.52	30	4.70	4.40	4.20	49	6.23	5.87	5.52
12	2.87	2.80	2.67	31	4.80	4.50	4.26	50	6.32	5.92	5.60
13	3.00	2.90	2.80	32	4.88	4.57	4.33	51	6.40	6.02	5.67
14	3.15	3.00	2.90	33	4.96	4.63	4.40	52	6.48	6.10	5.76
15	3.27	3.10	3.00	34	5.02	4.72	4.46	53	6.58	6.18	5.87
16	3.38	3.20	3.10	35	5.11	4.80	4.52	54	6.68	6.27	5.95
17	3.50	3.30	3.17	36	5.20	4.87	4.60	55	6.77	6.35	6.02
18	3.60	3.40	3.27	37	5.28	4.92	4.65	56	6.86	6.45	6.10
19	3.70	3.50	3.35	38	5.38	5.00	4.72	57	6.98	6.52	6.20
								58	7.08	6.60	6.30
								59	7.20	6.70	6.38
								60	7.30	6.80	6.47
								61	7.42	6.90	6.58
								62	7.52	7.00	6.67
								63	7.67	7.12	6.78
								64	7.80	7.23	6.90
								65	7.92	7.32	7.00
								66	8.03	7.48	7.12
								67	8.18	7.60	7.22
								68	8.33	7.72	7.36
								69	8.46	7.87	7.50
								70	8.62	8.00	7.62
								71	8.80	8.18	7.78
								72	8.98	8.35	7.92
								73	9.16	8.50	8.07
								74	9.38	8.70	8.22
								75	9.58	8.88	8.40
								76	9.78	9.07	8.58
								77	10.00	9.30	8.78
								78	10.22	9.50	8.97
								79	10.50	9.72	9.05
								80	10.78	10.00	9.35
								81	11.07	10.25	9.22
								82	11.40	10.57	9.92
								83	11.70	10.90	10.21
								84	12.07	11.22	10.55
								85	12.40	11.60	10.85
								86	12.80	12.00	11.22
								87	13.30	12.40	11.60
								88	13.80	12.90	12.00
								89	14.45	13.40	12.48
								90	15.00	14.07	13.00
								91	15.60	14.85	13.72
								92	16.30	15.72	14.60
								93	17.10	16.60	15.60
								94	18.00	17.60	16.60
								95	19.00	18.70	18.20



DAILY FLUCTUATIONS OF MOISTURE IN SILK IN PROCESS OF MANUFACTURE.

same year. The moisture regain for the spring months showed wide fluctuations from day to day and between forenoon and afternoon, but remained during the season within these extremes: the lowest, 2.6 parts of water to 100 parts of dry silk on March 6; and the highest, 10.4 parts of water on April 21. Wide apart as are these extremes they appear moderate when compared with those reached in the summer and winter. The accompanying chart continues the exhibit through the summer months, June, July and August, during which the same wide fluctuations occur from day to day and between forenoon and afternoon, but with a pronounced rising tendency which culminates in the latter part of August, the extreme being reached on August 23, 24 and 29 with a

per cent. This is the first tabulation of Schloesing's data ever published. Next month we will give the tabulation of the moisture regain for wool, thus completing the series for silk, cotton and wool.