

Standard Atmospheric Conditions for Textiles:

65% RH ± 4%
20°C ± 2°C

Temperature Scale:

- 18 °	- 10	0	5	10	15	20	30	40	60 °C		
0°	10	20	32	40	50	60	70	80	90	100	140 °F

Temperature

$$^{\circ}\text{F to }^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times \frac{5}{9}$$

$$\text{C to }^{\circ}\text{F} = (^{\circ}\text{C} \times \frac{9}{5}) + 32$$

Relative Humidity:

For most practical purposes, this is equal to the ratio of the mass of water vapour actually present in unit volume of moist air [absolute humidity] to the mass in unit volume of saturated air at the same temperature. [For definitions see BS 1339].

Chemical Hygrometer

The values below are grams of water contained in a cubic meter [m³] of saturated air at the total pressure of 101 325 Pa [1013 mb].

Temp/°C	0	1	2	3	4	5	6	7	8	9
0	4.85	5.20	5.55	5.95	6.35	6.80	7.25	7.75	8.25	8.80
10	9.40	10.00	10.65	11.35	12.05	12.80	13.60	14.45	15.35	16.30
20	17.30	18.35	19.40	20.55	21.75	23.05	24.35	25.75	27.20	28.75
30	30.33	32.05	33.80	35.60	37.55	39.55	41.65	43.90	46.20	48.60

CORRECTION FOR RELATIVE HUMIDITY IN WOOL FIBRE DIAMETER MEASUREMENT

The standard method of measurement of wool fibre diameter requires an atmosphere of 65% relative humidity; measurements made under other conditions will be in error to some degree.

The table gives the correction in microns to be applied to values obtained by air-flow or projection microscope methods to give the diameter at 65% r.h.

The relative humidity should be read from a hygrometer mounted near testing area. The sample should have been in the testing room for sufficient time to reach equilibrium with the atmosphere.

Correction table for effect of relative humidity on wool fibre diameter measurements

Observed diameter (microns)	Microns									
	Relative Humidity									
	38-42	43-47	48-52	53-57	58-62	63-67	68-72	73-77	78-82	83-87
	Add	Add	Add	Add	Add	-	Subtract	Subtract	Subtract	Subtract
18-19.9	0.4	0.4	0.3	0.2	0.1	-	0.1	0.2	0.4	0.6
20-21.9	0.5	0.4	0.3	0.2	0.1	-	0.1	0.2	0.4	0.7
22-23.9	0.5	0.4	0.3	0.2	0.1	-	0.1	0.3	0.5	0.7
24-25.9	0.6	0.5	0.4	0.3	0.1	-	0.1	0.3	0.5	0.8
26-27.9	0.6	0.5	0.4	0.3	0.1	-	0.1	0.3	0.5	0.8
28-29.9	0.6	0.5	0.4	0.3	0.2	-	0.2	0.4	0.6	0.9
30-31.9	0.7	0.6	0.5	0.3	0.2	-	0.2	0.4	0.6	1.0
32-33.9	0.7	0.6	0.5	0.3	0.2	-	0.2	0.4	0.7	1.0
34-35.9	0.8	0.7	0.5	0.4	0.2	-	0.2	0.4	0.7	1.1
36-37.9	0.8	0.7	0.6	0.4	0.2	-	0.2	0.4	0.7	1.1