

Determining the dew point and the minimum application temperature for coatings made out of reaction resins

Coatings made out of reaction resins should not be applied below the dew point or at temperatures below +5 °C. In order to avoid defects due to the formation of condensate, a thermometer (to measure the air temperature), a hygrometer (to measure the relative humidity) and a contact thermometer (to measure the surface temperature of the substrate to be coated) should be available on site. These measuring devices should be robust and accurate. They can be obtained through opticians and laboratory supply stores.

The dew point is checked as follows:

1. Establish contact of the contact thermometer and the substrate to be coated. If necessary with the specific version of thermometer at hand, wait 15 minutes before taking the reading, giving the thermometer sufficient time to show the actual temperature of the substrate.
2. Read off the air temperature of the thermometer for measuring the air temperature.
3. Read off the relative humidity of the hygrometer.
4. From the below table, read off the dew point temperature of the table at the intersection of your measured air temperature and your measured relative humidity.
5. Read off the surface temperature of the contact thermometer. If this temperature is at least 3 °C above the dew point temperature taken from the below table and if the air and object temperature are above +5 °C, then the work can be carried out safely. If the temperature of the substrate (measured with the contact thermometer) lies close to the dew point or below it, then no coating works should be carried out because the danger of condensate forming is high.

Recheck your conditions on site regularly. Pay attention to adverse or changing weather conditions.

Table for determining the dew point

Air temperature + °C	Dew point temperature in °C at a relative humidity of							
	40%	50%	60%	70%	80%	85%	90%	95%
40	23.8	27.7	30.8	33.5	35.9	37.0	38.1	39.1
38	22.0	25.7	28.9	31.6	34.0	35.0	36.1	37.0
36	20.3	24.1	27.0	29.7	32.0	33.1	34.2	35.1
34	18.5	22.2	25.2	27.9	30.1	31.2	32.1	33.1
32	16.7	20.3	23.3	25.8	28.2	29.2	30.2	31.2
30	14.9	18.4	21.4	23.9	26.1	27.2	28.2	29.1
29	14.0	17.6	20.5	23.0	25.2	26.2	27.3	28.2
28	13.1	16.6	19.4	22.1	24.3	25.3	26.2	27.2
27	12.3	15.7	18.6	21.1	23.3	24.3	25.2	26.1
26	11.4	14.8	17.7	20.1	22.3	23.3	24.3	25.2
25	10.5	13.8	16.7	19.1	21.4	22.3	23.3	24.2
24	9.6	12.9	15.7	18.2	20.3	21.4	22.3	23.2
23	8.7	12.0	14.9	17.3	19.4	20.4	21.3	22.2
22	7.8	11.2	13.9	16.3	18.4	19.4	20.3	21.2
21	6.9	10.2	12.9	15.4	17.4	18.4	19.3	20.2
20	6.0	9.3	12.0	14.4	16.5	17.4	18.4	19.2
19	5.1	8.3	11.1	13.4	15.5	16.4	17.4	18.2
18	4.2	7.4	10.1	12.4	14.6	15.4	16.3	17.3
17	3.3	6.5	9.2	11.5	13.6	14.5	15.4	16.2
16	2.5	5.6	8.3	10.6	12.7	13.6	14.6	15.5
15	1.6	4.7	7.4	9.6	11.7	12.6	13.5	14.4
14	0.7	3.8	6.4	8.7	10.7	11.6	12.6	13.4
13	-0.2	2.9	5.4	7.7	9.6	10.5	11.4	12.2
12	-1.1	1.8	4.5	6.7	8.7	9.6	10.5	11.3
11	-2.0	1.0	3.6	5.8	7.7	8.6	9.4	10.2
10	-2.9	0.0	2.5	4.8	6.8	7.7	8.5	9.3
8	-4.7	-1.6	0.7	2.8	4.7	5.6	6.5	7.3
6	-6.5	-3.1	-1.1	0.9	2.7	3.6	4.5	5.4
4	-8.2	-4.9	-2.6	-0.9	0.8	1.6	2.4	3.2

Example:

At +15 °C air temperature and 80 % relative humidity, condensation begins at a surface temperature of +11.7 °C. If you measure a surface temperature with the contact thermometer that is lower than +14.6 °C, you should not apply coatings made of reaction resins to the substrate of which you measure the temperature.

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.