Solids content by volume

These values are given in the technical information sheets in percentages of weight and in percentages of volume .
Calculating is only possible by using the formula or by laboratory tests.

Dry film thickness/wet film thickness

(abbreviations: d.f.t. or w.f.t.)
The recommended dry film thickness depends on the applicable system and the environmental circumstances.
When the layers are dry, they should nowhere be less thick than the prescribed.
This explains in part why the average dry film thickness is larger than the indicated minimum.
The dry film thickness can be calculated out of the wet film thickness as followed:

$$DFT = \frac{\text{w.f.t. x volume solids}}{100} \qquad WFT = \frac{\text{d.f.t. x 100}}{\text{\% volume solids}}$$

Measurement of the dry film thickness

In case of insufficient hardening of the coating the plummet can penetrate the surface of the coating layer, the film thickness will then be too thin.
In case of insufficient hardening it is recommended to use a test plate, of the familiar thickness, placed between the coating surface and the measurement equipment.

Theoretical spreading rate

The theoretical spreading rate in m²/L for a dry film thickness can be calculated according to the following formula:

$$m^2/L = \frac{\text{vol. \% solid matter x 10}}{\text{d.f.t. in micrometers}}$$

Practical spreading rate

The practical consumption depends on several factors, like shape of object, profile of surface, method of application, weather circumstances, expertness of the applicator etc.
The loss (inclusive of differences in film thickness) for spraying is mostly estimated on 30-50% on the theoretical spreading rate. When applicated with brush or paint roller the loss is mostly less, between 10 and 15%.

Blending of two component coatings

Two component products will be delivered as base and hardener, packaged in the correct mingle proportion.
The mingle proportion needs to be kept accurately, even if only a part of the packaging is being used.

Two component (high solid) coatings demand an accurate mingle sequence

Blend the base with a mechanical blender until it has become a flexible homogenous coating.
Add the matching hardener and mechanically blend the two components until an homogenous mingle has been obtained. Empty the can with hardener carefully, possibly with a little thinner, to obtain the correct mingle proportion.
Depending of the product keep 5 to 10 minutes initiation time (consult the induction time on the technical information sheets). Add the thinner after the initiation time and blend this as well mechanical with the other two components.

Thinning

The coating will be delivered on a viscosity, depending on the film thickness and the temperature, a 0-5% thinner can be added.
At low temperatures extra thinner is needed, which will cause a slighter film thickness reach and delay the hardening.

Dew point

In subjoined table the relation between dew point, air temperature and relative humidity can be read:

Air temp.	*Dew point in ℃ at a relative humidity of:*								
in ℃	*50%*	*55%*	*60%*	*65%*	*70%*	*75%*	*80%*	*85%*	*90%*
5	-4.1	-2.9	-1.8	-0.9	0.0	0.9	1.8	2.7	3.6
6	-3.2	-2.1	-1.0	-0.1	0.9	1.8	2.8	3.7	4.5
7	-2.4	-1.3	-0.2	0.8	1.8	2.8	3.7	4.6	5.5
8	-1.6	-0.4	0.8	1.8	2.8	3.8	4.7	5.6	6.5
9	-0.8	0.4	1.7	2.7	3.8	4.7	5.7	6.6	7.5
10	0.1	1.3	2.6	3.7	4.7	5.7	6.7	7.6	8.4
11	1.0	2.3	3.5	4.6	5.6	6.7	7.6	8.6	9.4
12	1.9	3.2	4.5	5.6	6.6	7.7	8.6	9.6	10.4
13	2.8	4.2	5.4	6.6	7.6	8.6	9.6	10.6	11.4
14	3.7	5.1	6.4	7.5	8.6	9.6	10.6	11.5	12.4
15	4.7	6.1	7.3	8.5	9.5	10.6	11.5	12.5	13.4
16	5.6	7.0	8.3	9.5	10.5	11.6	12.5	13.5	14.4
17	6.5	7.9	9.2	10.4	11.5	12.5	13.5	14.5	15.3
18	7.4	8.8	10.2	11.4	12.4	13.5	14.5	15.4	16.3
19	8.3	9.7	11.1	12.3	13.4	14.5	15.5	16.4	17.3
20	9.3	10.7	12.0	13.3	14.4	15.4	16.4	17.4	18.3
21	10.2	11.6	12.9	14.2	15.3	16.4	17.4	18.4	19.3
22	11.1	12.5	13.8	15.2	16.3	17.4	18.4	19.4	20.3
23	12.0	13.5	14.8	16.1	17.2	18.4	19.4	20.3	21.3
24	12.9	14.4	15.7	17.0	18.2	19.3	20.3	21.3	22.3
25	13.8	15.3	16.7	17.9	19.1	20.3	21.3	22.3	23.2
26	14.8	16.2	17.6	18.8	20.1	21.2	22.3	23.3	24.2
27	15.7	17.2	18.6	19.8	21.1	22.2	23.2	24.3	25.2
28	16.6	18.1	19.5	20.8	22.0	23.2	24.2	25.2	26.2
29	17.5	19,1	20.5	21.7	22.9	24.1	25.2	26.2	27.2
30	18.4	20.0	21.4	22.7	23.9	25.1	26.2	27.2	28.2

In connection with a safety margin the temperature of the surface must be approx. 3℃ above dew point.

The dew point is the temperature of an air/vapour mixture, where the condense forming starts, because the maximum water percentage is reached at that temperature.
Air can, at a particular temperature, only contains maximum quantity of vapour.
This quantity is bigger at higher temperatures.
The maximum quantity of moisture in the air at different temperatures is summed in the following table:

℃	*Max. humidity*	*gr/cm³*
0		4,8
5		6,8
10		9,5
15		12,8
20		17,3
25		23,0
30		30,4

In general is a relative humidity of 85% the maximum relative humidity, by which outdoor paint work can be carried out. At a higher relative humidity the difference between surface temperature and dew point is less than 2℃, which holds a too slight safety margin.

Lowering of the temperature in general leads to the risk of condense formation.
Steel e.g. that cooled down at night, shows mostly condensation moisture.
When the steel gets warmer again, for example by sun or other warmth, the condensation moisture will disappear.