



## FORMULA THEORETICAL COVERAGE CALCULATED IN M<sup>2</sup>/KG IN FUNCTION OF A CERTAIN LAYER THICKNESS

### Given

- Specific gravity of Zinga : 2.67 Kg/dm<sup>3</sup>
- Dry film thickness : variable, but for instance 80 μm
- Percentage of the dry extract, calculation based on the volume : 58 %

### Formula

**percentage dry extract in volume  
divided by the dry film thickness  
divided by specific gravity**

$$58 \% \div 80 \mu\text{m} \div 2.67 \text{ Kg/dm}^3 = ? \text{ m}^2/\text{Kg}$$

$$58 \% = 0.580$$

$$80 \mu\text{m} = 0.000 080 \text{ m}$$

$$2.67 \text{ Kg/dm}^3 = 2.67 \text{ Kg}/0.001 \text{ m}^3$$

$$\frac{0.580}{0.000 080 \text{ m}} \times \frac{0.001 \text{ m}^3}{2.67 \text{ Kg}} = \frac{580}{80 \times 2.67} \text{ m}^2/\text{Kg} = 2.72 \text{ m}^2/\text{Kg}$$

This is the **theoretical** coverage. The loss in practice is not taken into account.

### Conversion dry – wet film thickness

$$0.580 \times \text{wet film thickness} = \text{dry film thickness}$$

$$\text{dry film thickness} \div 0.580 = \text{wet film thickness}$$

| Wet film thickness | Dry film thickness | Coverage<br>Loss in practice not<br>taken into account | Consumption<br>Loss in practice not<br>taken into account |
|--------------------|--------------------|--|---|
| 34 μm              | 20 μm              | 10.86 m <sup>2</sup> /Kg                               | 0.09 Kg/m <sup>2</sup>                                    |
| 69 μm              | 40 μm              | 5.43 m <sup>2</sup> /Kg                                | 0.18 Kg/m <sup>2</sup>                                    |
| 86 μm              | 50 μm              | 4.34 m <sup>2</sup> /Kg                                | 0.23 Kg/m <sup>2</sup>                                    |
| 103 μm             | 60 μm              | 3.62 m <sup>2</sup> /Kg                                | 0.28 Kg/m <sup>2</sup>                                    |
| 138 μm             | 80 μm              | 2.72 m <sup>2</sup> /Kg                                | 0.37 Kg/m <sup>2</sup>                                    |
| 172 μm             | 100 μm             | 2.17 m <sup>2</sup> /Kg                                | 0.46 Kg/m <sup>2</sup>                                    |
| 207 μm             | 120 μm             | 1.81 m <sup>2</sup> /Kg                                | 0.55 Kg/m <sup>2</sup>                                    |
| 241 μm             | 140 μm             | 1.55 m <sup>2</sup> /Kg                                | 0.64 Kg/m <sup>2</sup>                                    |
| 259 μm             | 150 μm             | 1.45 m <sup>2</sup> /Kg                                | 0.69 Kg/m <sup>2</sup>                                    |
| 276 μm             | 160 μm             | 1.36 m <sup>2</sup> /Kg                                | 0.74 Kg/m <sup>2</sup>                                    |