

# Adjusting pH in dip & flow coaters

## Application guidelines

### The importance of pH

pH is a measure of the acidity or alkalinity of a liquid; the lower the number, the more acidic the solution. It is measured on a scale of 1 -14 with 7, being a neutral solution.

Most water based paints are slightly alkaline (pH>7) and it is important they remain like this to maintain product performance. A drop in the pH level of the product will result in poor run off properties, and may change colour and viscosity. In extreme cases the product solids can separate and drop out of solution.

The pH can drop because of evaporation and contamination, but the main problem in the wood finishing industry is prolonged contact with acidic extractives from timbers such as idigbo.

The issue of changing pH levels generally affects dip tanks, vacuum coaters and flow coat application machines. This can happen because contact times and evaporation can be high and excess contaminated material is recycled into the tank or sump for re-use.



### Measurement and control

To prevent application problems the following guidance should be followed:

1. The pH of the product should be tested regularly, typically once per week, using a pH meter. The liquid in the sump or tank should be stirred before sampling and the average of three readings taken to establish the pH level.
2. The target pH of Teknos primers is 8.5 – 9.0 and should never go below 7.5.
3. The pH level of a product can be increased by incorporating **TEKNOPAINT pH ADDITIVE 7900- 89**.
4. An addition of 1.5 ml of **TEKNOPAINT pH ADDITIVE 7900-89** per litre of product to be adjusted will increase the pH level by one point.

### Adjusting pH

To confirm the volume of product to be adjusted, you need to know the dimensions of the tank and its depth:

1. The product volume in litres is given by: length x width of tank (cm) x liquid depth (cm)/1000
2. Subtract the measured pH from 8.5 and multiply the result by 1.5. This gives , the adjustment factor.
3. Multiply the product volume by . The result is the volume, in millilitres, of **TEKNOPAINT pH ADDITIVE 7900-89** required to return the pH to the 8.5 target level.
4. Add 50% of the required **TEKNOPAINT pH ADDITIVE 7900-89** volume and stir thoroughly into the product.
5. Leave for 10 minutes, stir the product again and re- test the pH level.
6. Recheck the calculation, then stir in the remaining adjustment and re-test the pH to confirm the value is in the correct range.