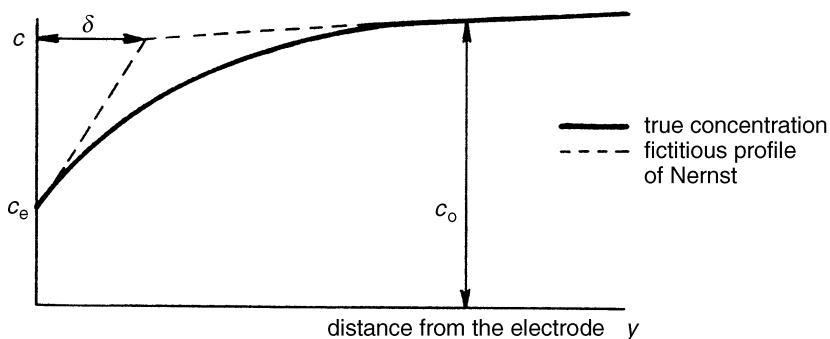


Nernst's diffusion layer

A fictitious layer corresponding to the dotted straight lines of the diagram which shows the concentration profile along the direction perpendicular to an electrode surface. The thickness δ of this layer is called the effective (or equivalent) thickness of the *diffusion layer*. Its definition is apparent from the figure. It is the thickness which the diffusion layer would have if the concentration profile were a straight line coinciding with the tangent to the true concentration profile at the *interface*, and that straight line were extended up to the point where the bulk concentration is reached. δ has a formal significance only. It is simply another way of writing the *mass transfer coefficient* k_d defined in terms of a resistivity instead of a conductivity.



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