

mass transfer coefficient (in electrochemistry)

The *heterogeneous diffusion rate constant* defined for the case of the *limiting current*. A more general definition in terms of the *electrode current densities* is:

$$k_d = j\nu/nF(c_e - c_0)$$

or

$$k_d = j\nu(1 - t_B n \nu^{-1} z_B^{-1})/nF(c_e - c_0)$$

where j is the electrode current density, ν is the *stoichiometric number*, n is the *charge number of the electrode reaction*, F is the *Faraday constant*, c_e is the *interfacial concentration*, c_0 is the *bulk concentration*, t_B is the *transport number* of species B, and z_B is the charge number of species B.

1981, 53, 1839