

도금욕 부유드로스의 감소
Reduction of Floating Dross in the Zinc Bath

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Dross formation in the zinc bath is inevitable under any condition as long as coating process on steel strip continues. Thus, bath aluminum and temperature are precisely managed to suppress the increase of dross. Also, excessive dross for normal coating process is generally eliminated physically by bubbling and skimming. Total amount of dross in the bath can be sometimes high enough to cause coating defect. On the other hand, local concentration of dross can make coating defect even with satisfactory level of total amount of dross.

Reduction of dross in the bath was attempted by using ceramic foam filter made of mainly alumina. Dross in molten zinc was almost reduced to the levels of solubility of iron and aluminum in molten zinc at 450~460°C. Their solubility levels were confirmed by thermodynamic calculations or DEAL program. Two kinds of filters were tested for dross reduction. One was #20 ppi, porous per inch, and the other #30 ppi filter. Both were effective in reducing the bath dross to the solubility levels at the static state. Bath iron was reduced by 24 wt% and 19 wt% with #20 filter, and by 35 wt% and 29 wt% with #30 filter for GI and GA pot, respectively. Also, ceramic foam filter did not make any harm to the zinc bath composition after filtering test.