

“Summary Development of Hi-F Coat for Carbon Steel Piping”  
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Low recontamination by Hi-F Coat (Hitachi Ferrite Coating) was confirmed for stainless steel. In application of Hi-F Coat to carbon steel (CS), problem is that Hi-F Coat procedure for SS is not applicable for CS.

The idea for Hi-F Coat procedure for CS is that higher pH is a key parameter to reduce CS corrosion. The new method enables to make enough film on CS. From detail analysis of formed film, fine mono layer of polycrystalline  $\text{Fe}_3\text{O}_4$  was identified. Co deposition test was performed under simulated NWC (normal water chemistry) conditions and its effect was confirmed.

- Film formation was realized by reducing CS corrosion.
- Target film amount of  $90 \mu\text{g}/\text{cm}^2$  was realized.
- Weight gain was reduced to about 1/4 by Hi-F coat film under simulated NWC.
- Deposition amount of Co-60 was reduced to about 40% by Hi-F coat film under simulated NWC.