

## **Degradation Mechanism of Steel in Boilers Due to SRF co-incineration**

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Co-incineration of waste in thermal power plants is a viable method waste disposal. Unfortunately, beside already known problems with corrosion of boiler materials when burning with coal, SRF (Solid Recovered Fuel) co-incineration introduces chlorine (Cl) into the boiler. Chlorine is extremely dangerous due to the fact that it forms low melting salts with potassium. KCl reacts with chromium oxide and forms a low melting eutectic and thereby eliminating the passive protection layer.

Furthermore, chlorine is not used up or easily eliminated in the system by burning, but can accumulate in the system. A so-called "chlorine cycle" can be created, which can be very dangerous for the corrosion of boiler materials, because the concentration of chlorine can increase with inadequate treatment and cause uncontrolled corrosion of steel in the boiler.