

Highlights

- General corrosion of the surface caused recession of the Co-rich matrix, Cr-rich carbide (M_7C_3) and the W-rich carbide ($M_{12}C$). The surface of the Co-rich matrix receded more than the surface of the Cr-rich carbide.
- Enhanced corrosion was seen at the interface between the Cr-rich carbide (M_7C_3 -type) and the Co-rich matrix with the formation of $CoCr_2O_4$ to a depth of $\sim 1 \mu m$; this was due to an electrochemical effect.
- This interfacial oxide occurs only at interfaces of this type, and not at the other interfaces.