

Short Communication

A Study on Corrosion of VM125HC in simulated oilfield water

Shuliang Wang¹, Feng Wang¹, Fei Xu¹, Mingyu Bao¹, Li Liu^{1,*}, Xin Wang^{1,*}, Chengqiang Ren^{1,2}

¹School of Materials Science and Engineering, Southwest Petroleum University, 8 Xindu Avenue, Chengdu, Sichuan 610500, China

²State Key Laboratory of Oil and Gas Reservoir Geology and Exploitation, Southwest Petroleum University, 8 Xindu Avenue, Chengdu, Sichuan 610500, China

*E-mail: liuliswpu@163.com, xin.wang@swpu.edu.cn

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VM125HC steel is a new anti-collapse tube steel that was developed by V&M company. Up to date, there are very few studies reported regarding the corrosion mechanism of VM125HC steel. This work studied the corrosion mechanism of VM125HC in simulated oilfield water with saturated CO₂ by XRD, EDS, SEM, polarization curves and EIS. The results show that the corrosion rate of VM125HC in designated condition is affected by time. The pH value has played an important role in the process of the cathode reaction. The corrosion product films, composed of small FeCO₃ grain, are smooth. With the increase of immersion time, the corrosion films became denser, which enhanced the protective effect.

Keywords: VM125HC steel, CO₂ corrosion, Corrosion mechanism, Corrosion products film, Electrochemical

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