ProTreat®
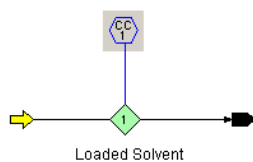
Corrosion Rate Prediction

Predict corrosion rates in acid gas systems with various metallurgies

ProTreat® offers a detailed chemistry- and hydraulics-based predictive corrosion model built on both public and much proprietary corrosion rate data. In the model, chemical species of interest are: bisulphide ion (HS^-), free physically dissolved H_2S, bicarbonate ion (HCO_3^-), and free physically dissolved CO_2, all of which are oxidizing agents. The final distribution of molecular and ionic species is found by solving the equations of chemical reaction equilibria, atom balances, and a charge balance to determine the solution's speciation.

ProTreat's model calculations are based on solution speciation as activities, fluid velocity in the pipe, pipe roughness, type of fitting (elbows, tees, etc.), temperature, and the type of metallurgy (carbon steel, 304L, 316L, Alloys 2205, 2507, 825, C-276) using data for acid-gas-loaded MEA, DEA, MDEA, and sour water. Corrosion coupons can monitor any flowsheet liquid streams, as well as two-phase streams.

Corrosion Coupon Dialog

Optimize your design and build a plant you can be certain will perform as expected