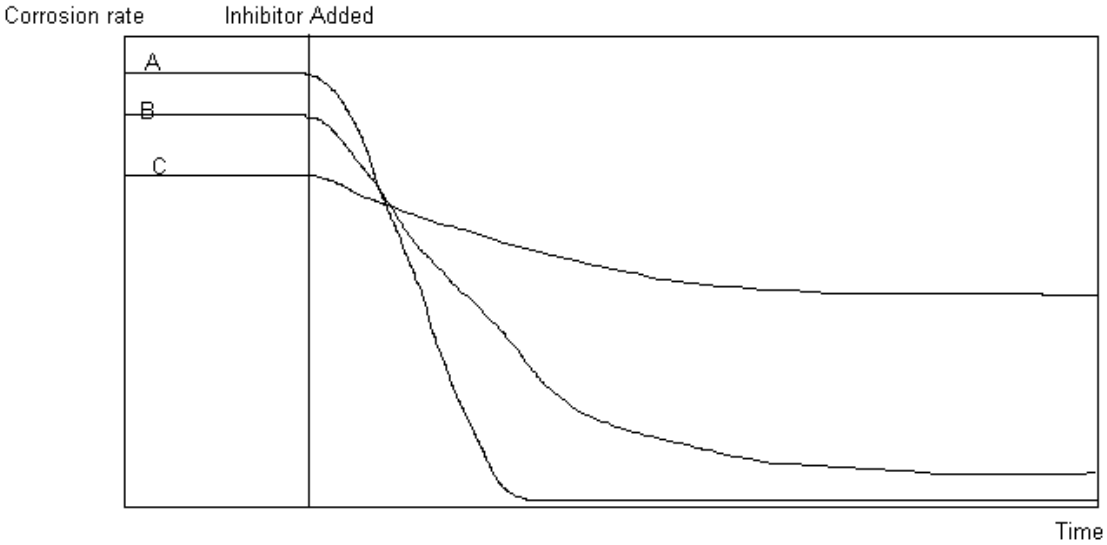
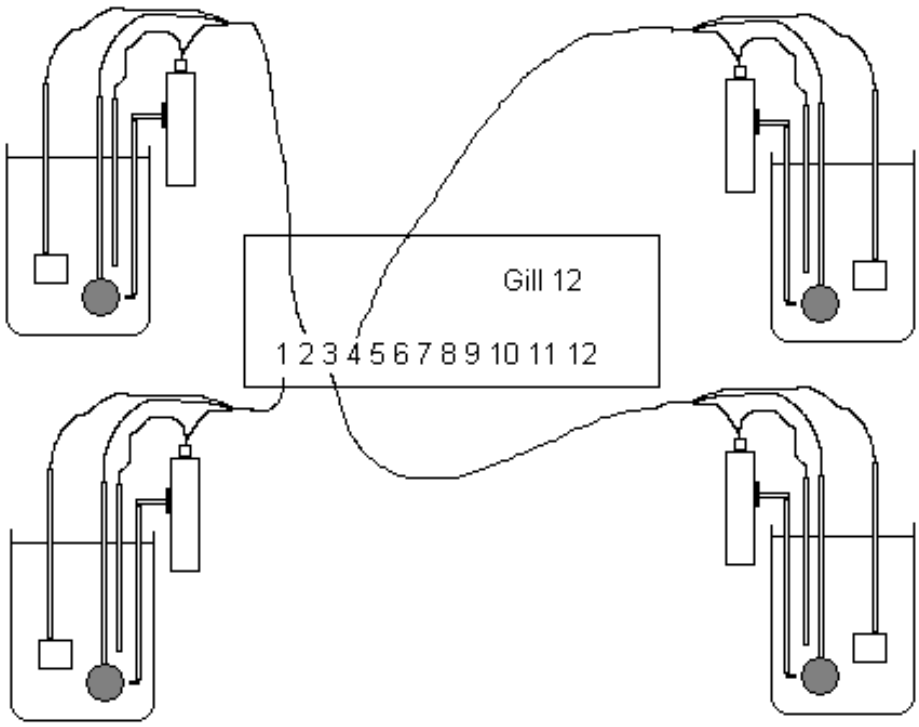
ACM Instruments

Inhibitors

Testing of these chemicals is performed by makers and users. Makers set up initial screening to not reject any potential good ones. Users set up initial screening to reject any potential bad ones. Test metal should be the same metal as that to be protected as should be the test fluid. The two most widely used tests are LPR and Tafel plots. Both are ideally performed using a Gill 8 or Gill 12. The use of a multiple channel instrument allows for replication to gain confidence in the results. The Bubble Test software automatically groups the tests and prints inhibition reports using the LPR method. After all the small LPR perturbations have been made an optional Tafel sweep is performed to obtain the Tafel slopes. AC impedance is less commonly used except with high resistance electrolytes where the IR drop in the solution needs to be measured and overcome.



Typical results are shown above metal A has the highest corrosion rate but on the addition of the inhibitor the rate drops to the lowest. The test should be repeated at least three times and the results compared for scatter. The percentage protection of an inhibitor is usually quoted this is defined as 100*(uninhibited rate-inhibited rate)/uninhibited rate. The bubble test software will display this for all channels under test. The temperature of the test is important as a whole set of percentage protection values is displayed with respect to temperature.


Gill 12
1 2 3 4 5 6 7 8 9 10 11 12