690 Working Group "G" on SCC Growth Rate Testing

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Focus of WG#2 (CGR Studies) and the Immediate Tasks to Be Performed

1. SCC growth rate testing guidelines
2. SCC base metals, weld metals and HAZ testing
   - availability of spectrum of key materials
   - definition of key issues and tests
   - similarities/characteristics vs. differences in results → resolution
   - coordinated testing & comparison testing (identical materials)
3. Linkages between response of cold worked base metal and HAZ
   - residual stresses & strains in SS/600 vs. 690: EBSD & SCC
   - nature of welds & coincidence of banding, stresses, strains
4. Definition of a threshold growth rate of concern of ~2×10^{-8} mm/s to avoid the extended test times required to measure v. low CGRs

Some Key Issues to Address in WG#2

1. Effect of various types of microstructural inhomogeneities
2. Effect of cold work on 690 with excellent microstructure
3. Combined effect of cold work and inhomogeneity/banding
4. Linkages between response of cold worked base metal and HAZ
   - residual stresses & strains in SS/600 vs. 690: EBSD & SCC
   - nature of welds & coincidence of banding, stresses, strains
   - SCC measurements on HAZs
5. Effect of K, temperature & dissolved H_2 on above 690 variations
6. Perhaps extension to other materials, so that the synergistic effect of banding and cold work is more fully understood.