

Bill Mohr

Principal Engineer



TECHNICAL EXPERTISE

Bill Mohr is a Principal Engineer within the Structural Integrity group, with responsibilities for initiating, conducting, and reporting research and contract work. He is an expert in the areas of fitness-for-service assessment, design, and fatigue of welded structures.

BACKGROUND AND PROJECT EXPERIENCE

Prior to joining EWI in 1993, Bill worked for Shell Development Company where his responsibilities included assessment of failed piping systems, impact-loaded machine components, and nozzle-to-head connections. Bill's Ph.D. thesis developed an applied mechanics analysis of creep resistance in particle-hardened alloys. He has authored more than 30 technical papers and many reports of sponsored projects, failure analyses, and fitness-for-service assessments.

Fatigue. Bill spearheaded an effort to determine the effects of scale, weld profile, and post-weld improvement on fatigue performance for the API Offshore Tubular Joint Research Program. Another effort developed fatigue data on structural titanium welds that was used by the Structural Welding Code - Titanium. He was principal investigator of a group-sponsored project examining different welding processes to determine if welding process variables can be changed to improve fatigue performance.

Fitness-for-Service Assessment. Bill has reported many fitness-for-service analyses, particularly involving refinery components, such as pressure vessels and piping. Analyses include wet hydrogen-sulfide cracking of saturates gas plant vessels, corrosion fatigue crack growth in caustic environments, and fatigue crack growth in screw pump shafts. He has presented an analysis of factors involved in brittle fracture of welded connections due to the Northridge earthquake. He has examined the effect of the welding residual stress on the fracture resistance of girth-welded cylinders. His experience includes familiarity with many widely accepted assessment procedures, including BS 7910:1999, API 579, the EPRI method and BS 7608.

Experimental Testing. Bill has led numerous projects involving tests of metal components for strength, toughness, fatigue resistance, and fatigue threshold. He led a program testing the combined bend and pressure loading of a full-scale sleeve pipe weld with a notch, as well as tests on full-thickness pressure vessel steels with differing severities of hydrogen-induced cracking delaminations. Components and materials tested include automotive transmission components, pump impellers, microelectronic packages, aircraft aluminum, and structural titanium alloys. He also wrote the chapter on mechanical testing of welded joints for the ASM Handbook Volume on mechanical testing and evaluation.

EDUCATION

S.B. Materials Science and Engineering, Massachusetts Institute of Technology
 M.S. Materials Science and Engineering, Stanford University
 Ph.D. Materials Science and Engineering, Stanford University

PROFESSIONAL AFFILIATIONS

American Welding Society
 ASM International
 Sigma Xi



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