

Hyunok Kim

Senior Engineer Technical Director, EWI Forming Center



TECHNICAL EXPERTISE

With a diverse background of academic, industry, engineering, research, and teaching experience, Hyunok Kim possesses a comprehensive knowledge of forming technology. His areas of expertise include cold/warm/hot sheet and bulk forming technologies, forming equipment, tribology, simulations, and formability testing/analysis. He has led numerous government- and industry-sponsored research programs of hot and warm forming of automotive and aerospace structures, manufacturing fuel cell components, and shear fracture/edge cracking in stamping advanced high strength steel(AHSS), springback control, and crash modeling of AHSS automotive structure parts.

BACKGROUND AND PROJECT EXPERIENCE

Hyunok joined EWI in 2008 as a project engineer in the Structural Integrity and Modeling group. In 2012 he helped establish the EWI Forming Center in cooperation with The Ohio State University. Since then, he has been actively involved in technical issues of lubrication, formability, and fracture predictions in sheet metal forming with various 5xxx-6xxx aluminum alloys for the automotive industry. Hyunok has applied the finite-element (FE) modeling technique to design the forming dies and predict the fracture, thinning, and springback of formed products. His experimental works for stamping and formability with prototype tooling have resulted in verification of numerical modeling results.

Hyunok consults with small- to large-sized sheet metal forming companies and material suppliers, as well as automotive, heavy manufacturing, and shipbuilding OEMs globally. He is an Adjunct Professor at The Ohio State University College of Engineering where he teaches metal forming. A thought-leader in the Sheet Metal Forming Industry, he organizes workshops on advanced sheet metal forming technologies and is currently leading the Sheet Metal Forming and Forging industry focus group meetings for the NIST AMTech roadmap project.

Prior to joining EWI, Hyunok worked as a postdoctoral researcher and graduate research associate at the OSU Engineering Research Center for Net Shape Manufacturing (ERC/NSM). Hyunok's work included projects sponsored by automotive OEM's, steel suppliers, oil industry, and government agencies. He has authored and co-authored more than 30 technical papers and articles on manufacturing and metal forming.

EDUCATION

B.S. Mechanical Engineering, Sung Kyun Kwan University
M.S. Mechanical Engineering, University of Michigan
Ph.D. Mechanical Engineering, The Ohio State University



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