



LINKpipe

Takes you from rule-based design to direct calculations:



A state-of-the-art software tool for analysis of the criticality of cracks and defects in pipelines and piping systems.

The LINKpipe software program offers rapid fracture mechanics calculations with an accuracy proven by full-scale tests at a speed suitable for design application

LINKpipe – a new tool for integrity assessment

Structural materials inherently have cracks and defects that may grow during installation and operation due to tearing and/or fatigue.

LINKpipe is a non-linear, special-purpose finite element tool for performing fatigue and fracture mechanics calculations in pipelines and piping structures based on shell elements and modified line-spring technology, but with an accuracy similar to more computationally expensive 3D FE models. Significantly reduced pre-processing, post-processing and computation time is achieved.

LINKpipe implements the most advanced technology in the field, including the most recent state-of-the-art advances within strain-based fracture assessment, developed by a group of experts at the Norwegian University of Science and Technology and SINTEF.

LINKpipe captures the physics of actual operating conditions and accounts for the detrimental effect of internal pressure on fracture capacity.

LINKpipe accounts for ductile crack growth in depth and around circumference.

LINKpipe combines structural analysis (plastic collapse, buckling) and local defect analysis (brittle and ductile fracture) and can also assess pipelines subjected to general corrosion (loss of wall thickness).

LINKpipe tells you which defects are critical and whether a repair/replacement is required.

LINKpipe has built-in functionality for automated sensitivity analyses and ECA analyses to establish welding defect acceptance criteria for pipeline installation.

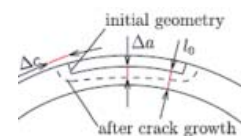
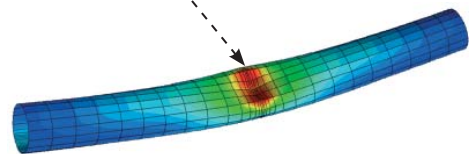
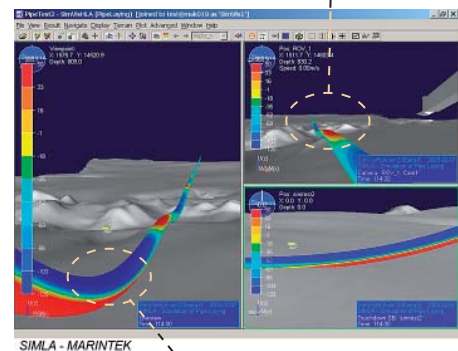
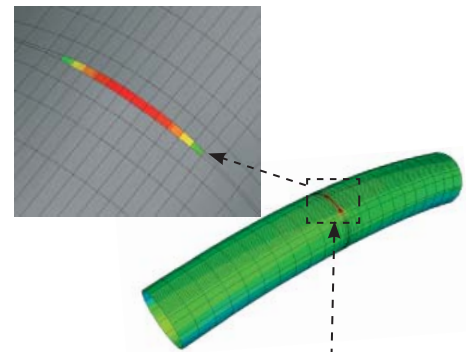
LINKpipe is a commercially available software program offered by the company LINKftr AS – www.linkftr.com

LINKpipe application

Pipelines under installation (S-lay, J-lay, Reel-lay, J-tube), operation (pressure cycling, lateral/upheaval buckling, free spans etc.), pipelines subjected to corrosion, arctic pipelines (frost heave, thaw settlement, ice gouging), pipelines in seismic areas, concept studies and design, fitness-for-purpose, inspection planning and analysis of inspection data, materials selection and geometry optimization, ECA/development of welding acceptance criteria, sensitivity studies, calibration of safety factors, accidental loading scenarios (anchor hooking, trawl impact etc.)

Accuracy proven through comparisons with full-scale tests and 3D FE simulation

Significant improvement in pre-, post-processing and analysis time over 3D FE simulations



A Shell element model plus the improved line-spring element = LINKpipe

Contact:

For technical queries and questions about pricing or terms of the software, or to obtain a trial version of the software, please contact:

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