

START HERE

Two ways to begin.

One is free and immediate. The other is a scoped engagement with our engineers. Both start with your material.

01 TRY IT YOURSELF



phases.aerobase.se

Choose a steel and define the thermal cycle or weld conditions. Explore the predicted material response in your browser.

Free to try. No install.

02 BRING US A REAL PART



contact@aerobase.se

Describe the component and the question you need answered. We plan the tests, calibrate against them, and deliver a material model for your chosen solver.

Testing, calibration and integration.

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Aerobase turns a material's chemistry and test data into calibrated models your solver can run.

WHAT WE BUILD

PHASES

Solver- and browser-based material and process simulation.

SAFELIGHT

Calibrated failure models. In commercial use since 2020.

Caliber

Test planning, testing, calibration and validation.

Engineering support

A scoped engagement for modelling and integration.

HOW A MODEL GETS BUILT

Define the physics > build the evidence > calibrate > validate and hand over.

CONTACT

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INDUSTRIES WE WORK IN

Aerospace · Automotive · Manufacturing
Marine · Rail · Energy · Mining

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PHYSICS-BASED MATERIAL MODELS

Manufacturing changes the metal. Your simulation should reflect it.

Forming, welding and heat treatment rewrite the microstructure. Aerobase builds the material models that carry that history forward, into your solver.

MODEL FASTER.

DECIDE SOONER.

BUILD ONCE.

FREE TO TRY · NO INSTALL

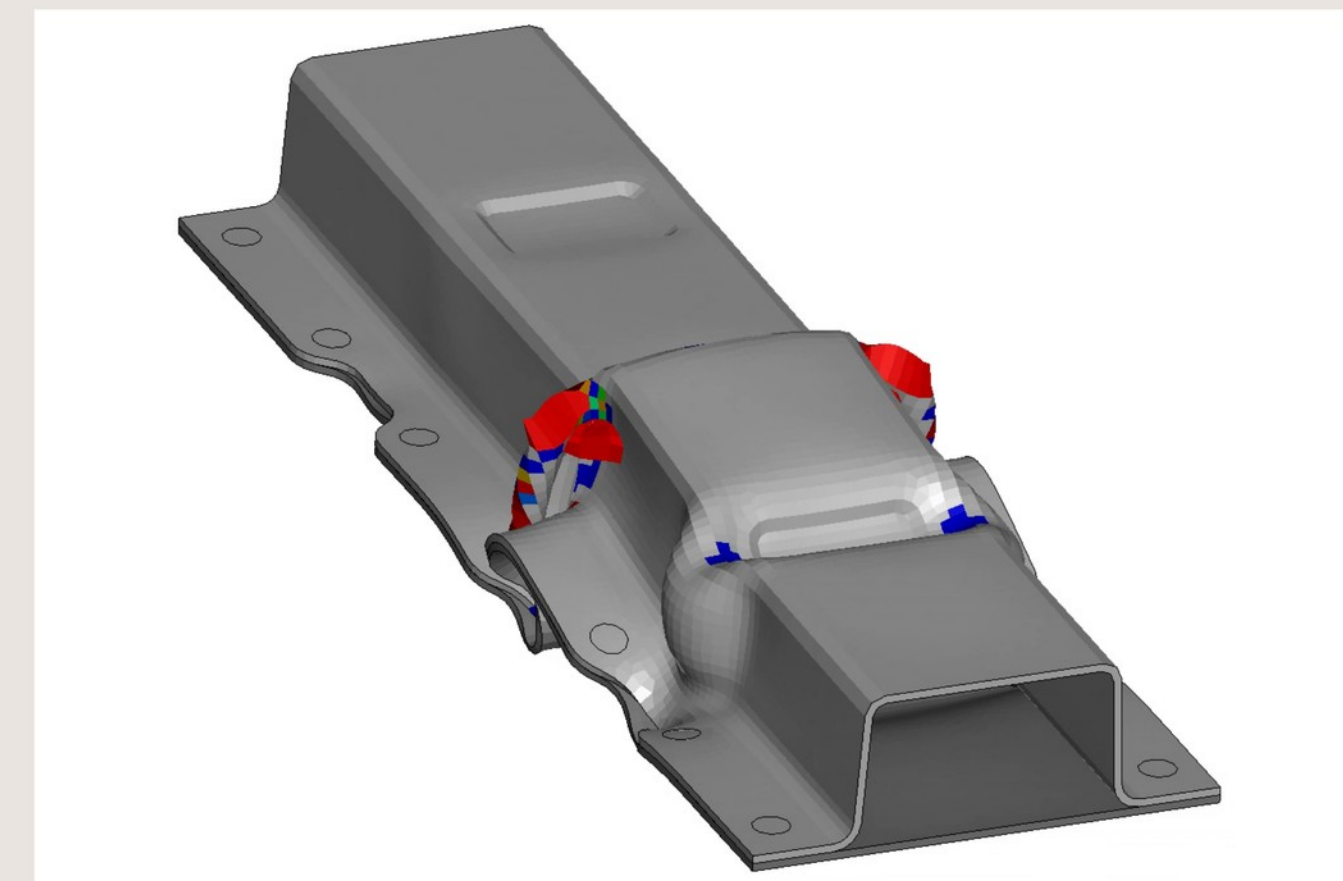
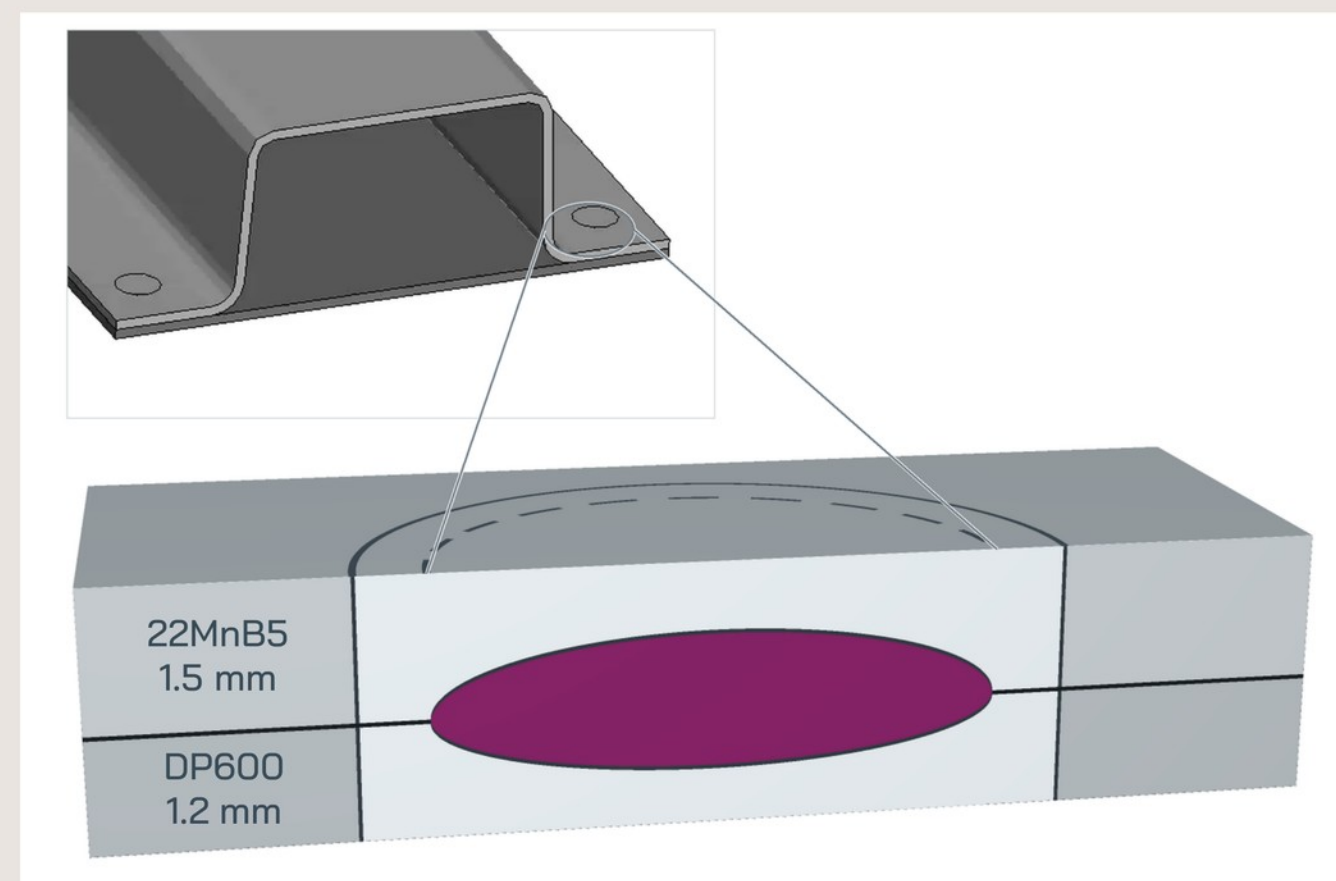
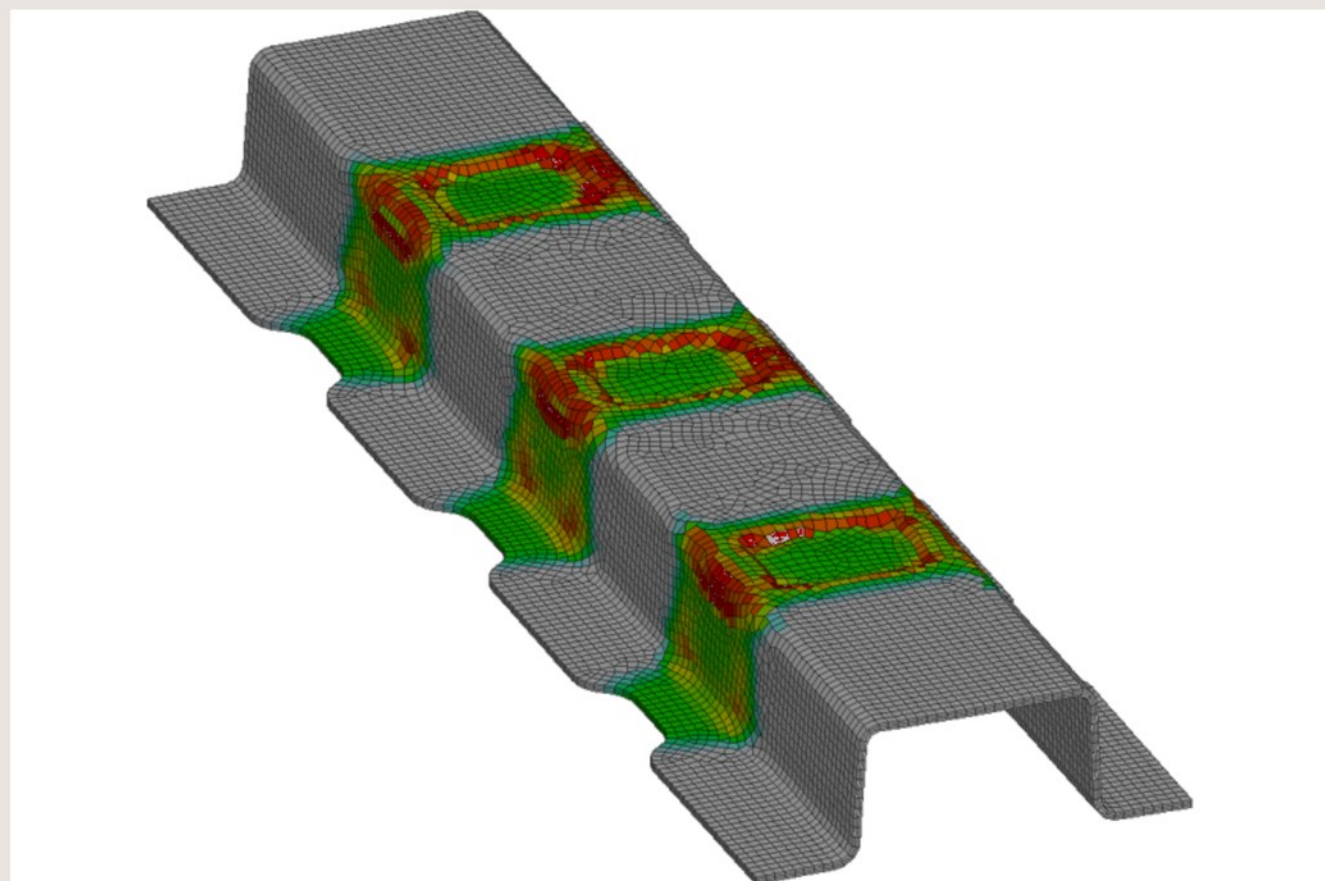
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10 commercial customers · Sweden, United States, Brazil

aerobase.se · Luleå & Trollhättan, Sweden

Connected models. Continuous material history.

Phase fractions, local properties, and plastic strain carry over from one step to the next.



01 FORM + HARDEN



PHASES

Hot forming and the die quench decide the microstructure.

Martensite	95 %
Hardness	497 HV

Correct the die and the blank before you cut steel.

02 JOIN



PHASES

One weld, two steels, different properties millimetres apart.

22MnB5 · nugget and HAZ	508 HV
DP600 · nugget / HAZ	316 / 182 HV

Narrow the weld-process window before physical trials.

03 LOAD + FAIL



SAFELIGHT

The part is finished. Now it has to survive the crash.

Peak force	55 kN
Energy absorbed, 0–96 mm	4.3 kJ

See where the part fails, and what the spot welds did to it.

THE OUTCOME

FEWER LATE SURPRISES.

Process-aware models help identify material and failure risks before committing to prototypes.

DECISIONS MADE EARLY.

Compare material and process choices while the component can still change.

MORE FOCUSED TESTING.

Use simulation to target physical tests and reduce avoidable trial iterations.

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Models that carry the process history forward.

Computed results · Manufacturing and crash of a 22MnB5 / DP600 rail

TRY IT LIVE

phases.aerobase.se

Material and process simulation, through a conversational interface.

SAFELIGHT and PHASES run in
LS-DYNA, OpenRadioss and Abaqus

