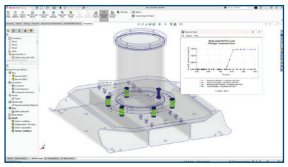
WHAT'S NEW IN SOLIDWORKS® 2027—SIMULATION

SOLIDWORKS Simulation

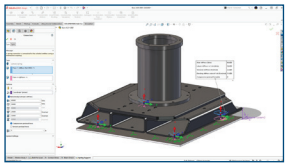


1 Time-Based Preloading of Bolts in Nonlinear Simulations

- Model time-varying bolt preloads to capture real-world tightening and load changes.
- Apply preload profiles directly within nonlinear static and dynamic studies.
- Validate bolted-joint performance under complex, changing loads before you build a prototype.

Benefits

Predict bolt behavior accurately and catch joint failures before physical testing.

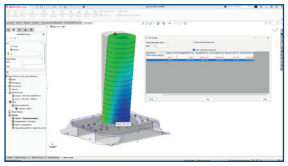


2 General Spring in Nonlinear Simulations

- Use General Spring connectors in nonlinear static and dynamic studies.
- Reuse spring definitions from linear studies without redefining connectors.
- Review shear force, axial force, bending moment, and torque results directly in post-processing.

Benefits

Model nonlinear spring behavior faster by reusing existing definitions and results.

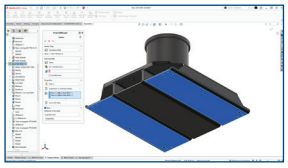


3 Beam Shear Stress Results in Post-Processing

- View Shear Dir1 and Shear Dir2 columns in the List Beam Forces – Stresses table.
- Compare and export beam shear stress results without manual calculations.

Benefits

Validate beam designs faster with complete shear stress data on hand.

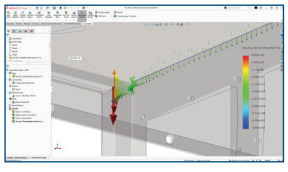


4 New Sensor Criterion: Sum of Selected Entities

- Add a sensor that totals forces, pressures, or displacements across multiple selected entities.
- Monitor aggregate results in one sensor instead of calculating totals manually.

Benefits

Get cumulative results instantly and skip manual post-processing steps.



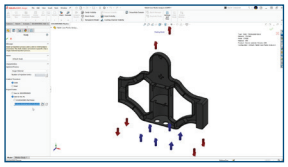
5 Bonding Interface Stress Evaluation

- Evaluate normal and tangential stress at bonded surface-to-surface contacts during post-processing.
- Skip manual calculations to assess interface load distribution directly.
- Automatically highlight regions with peak interface stress for faster review.

Benefits

Spot weak bonded interfaces faster and validate designs with more confidence.

SOLIDWORKS Plastics

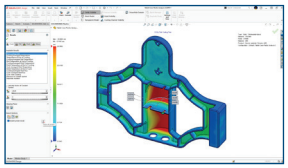


6 Custom Storage Path for Plastics Study Results

- Set a custom folder for study output files alongside your project data.
- Keep simulation results organized instead of relying on default storage locations.
- Maintain a consistent, project-based folder structure for easier collaboration and traceabiilty.

Benefits

Find results faster and keep project files organized and traceable.

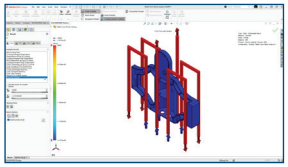


7 Multipoint Result Query

- Compare simulation results at multiple locations on a molded part at the same time.
- Identify critical areas affecting filling, cooling, and warpage in one pass.

Benefits

Validate designs faster by comparing critical regions simultaneously, not one at a time.



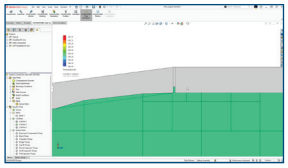
8 Reynolds Number Plot in Mold Cooling Simulation

- Plot Reynolds number values to assess flow regimes in cooling channels.
- Get more accurate fill and pack results with the second-order solver.

Benefits

Validate cooling, filling, and packing performance with clearer flow insight.

SOLIDWORKS Flow Simulation

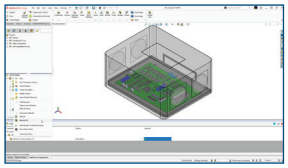


9 Automatic Sealing for Internal Flow Tasks

- Automatically seal thin gaps and leaks for reliable internal flow simulations.
- Verify sealed regions visually using the Mesh plot in Cells mode.

Benefits

Cut model prep time and get more robust flow simulation results.



10 Bulk Subassembly Configuration Rebuild

- Rebuild and save every subassembly configuration across multiple projects in one operation.
- Skip repetitive, one-by-one processing of individual subassemblies.

Benefits

Update all subassemblies at once and keep projects consistent, faster.

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