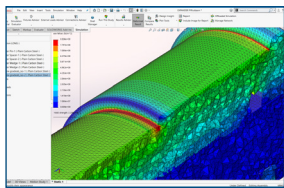


# WHAT'S NEW IN SOLIDWORKS 2020—SIMULATION

## SOLIDWORKS Simulation

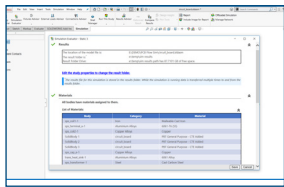


### 1 Accelerated Simulation Calculations

- SOLIDWORKS® Plastics offers computer-aided engineering (CAE). Combine linear elements for faster solution and quadratic elements for higher accuracy in the same simulation study.

#### Benefits

Validate designs more quickly while still capturing accurate results for critical components.

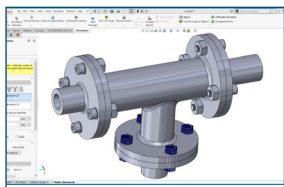


### 2 Simulation Evaluator

- Check for common errors in simulation, such as result location, material, and mesh volume.

#### Benefits

Be confident that you have the correct simulation setup and results.

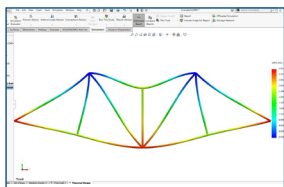


### 3 Distributed Coupling for Pins and Bolts

- Allow faces attached to Pin and Bolt connectors to deform.

#### Benefits

Achieve a more realistic representation of a connector's behavior.

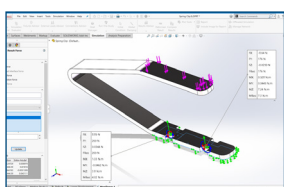


### 4 Thermal Loads for Beams

- Import temperatures from thermal analysis on models with beams as load to perform stress analysis.

#### Benefits

Save a substantial amount of time and computer resources by using beams instead of shells and solids.



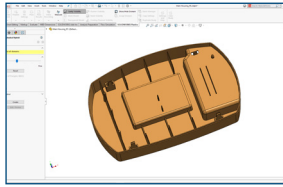
### 5 Free-Body Forces for Nonlinear Studies

- Now you can calculate free-body forces for contact, external loads, restraints, and more in nonlinear studies.

#### Benefits

Help users quickly obtain results such as Reaction Forces.

## SOLIDWORKS Plastics

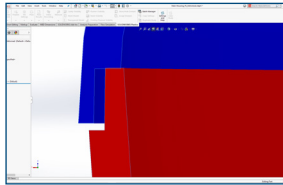


### 6 Redesigned Mesh Property Manager and Enhanced Solid Mesh Workflow

- Streamline mesh creation with Mesh Property Manager and create a hybrid mesh, combining tetrahedral and prism elements, with Solid Mesh.

#### Benefits

Reduce the number of steps to create a mesh and make it better suited for plastic injection molding.

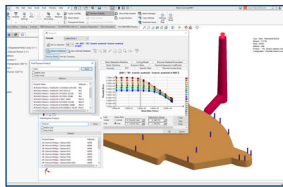


### 7 Ability to Create Body from Deformed Shape

- Export a deformed shape as a SOLIDWORKS part after running a warpage analysis.

#### Benefits

Evaluate a part's deformed shape and assembly fit requirements for the plastic injection molding process.

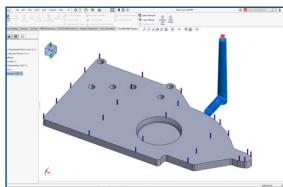


### 8 Material Library Updates

- Access the world's largest, accurate, and up-to-date database for plastics materials and suppliers.

#### Benefits

Save time by finding the material you need ready for use in the Plastics Material Library.



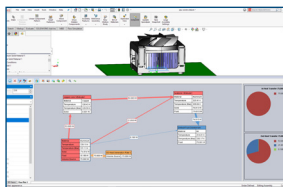
### 9 Geometry-Based Boundary Conditions

- Assign more boundary conditions, such as injection points and control valves, directly on geometry entities. Geometry and boundary conditions are directly connected and automatically updated when changes occur.

#### Benefits

Position injection points and control valves more accurately.

## SOLIDWORKS Flow Simulation



### 10 Flux Plot

- Display as a graph the amount of heat transferred from one component to another by conduction.

#### Benefits

Easily explore the heat path and understand your thermal design.

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