

15 APPROACHES TO THERMAL STRESS ANALYSIS

Depending on the conditions and the results that you're interested in, there are as many as 15 approaches with SOLIDWORKS Simulation and SOLIDWORKS Flow Simulation tools. Here are the assumptions and considerations for each method along with the required software package.

Assumptions and Considerations	Method	Software Package Needed
<ul style="list-style-type: none"> • Materials are linear isotropic • Temperatures are uniform through all bodies 	Linear Static Stress Analysis	SOLIDWORKS Simulation Standard
<ul style="list-style-type: none"> • Materials are linear isotropic • Temperature gradients can be obtained • Temperature dependent material properties can be considered 	Thermal Analysis (Steady State) > Linear Static Stress Analysis	SOLIDWORKS Simulation Professional
<ul style="list-style-type: none"> • Materials are linear isotropic • Stresses at a specific time can be obtained • Temperature gradients can be obtained • Temperature dependent material properties can be considered 	Thermal Analysis (Transient) > Linear Static Stress Analysis	
<ul style="list-style-type: none"> • Nonlinear materials can be used • Temperatures are uniform through all bodies 	Nonlinear Static Analysis	SOLIDWORKS Simulation Premium
<ul style="list-style-type: none"> • Nonlinear materials can be used • Stresses over a period of time can be obtained • Temperatures are uniform through all bodies 	Nonlinear Dynamic Analysis	
<ul style="list-style-type: none"> • Nonlinear materials can be used • Temperature gradients can be obtained • Temperature dependent material can be considered 	Thermal Analysis (Steady State) > Nonlinear Static Analysis	

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