all flex SOLUTIONS

Thermal Simulation to Optimize Flexible Heater Designs

FLEX | RIGID FLEX | HEATERS | ASSEMBLY

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Application: Using Thermal Simulations to Reduce Cost and Design to Production Time

Most often when designing heaters for new applications the designer knows the desired outputs and has created a 3D model of the application. What is usually unknown is the amount of heat and the optimal heat distribution to meet the desired outputs. Many times, customers will estimate the heat needed and attempt to design their application around an off the shelf stock heating option. While this can work for some applications others often require customized solutions to optimize the design.

When customers are looking for this optimal solution All Flex is able to offer Finite Element Analysis (FEA) to complete a thermal analysis of the application. All Flex will take the model and vary the heating zones and wattage to achieve the desired heat distribution, temperature, and time to temperature. Utilizing this offering can often save money, time and provide you with the best possible solution. Below are the steps taken when designing flexible heaters. You can see that using FEA greatly diminishes the amount of time necessary to complete a project, which in turn lowers costs and creates a more efficient product.

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Design Process Without Thermal Simulation

1. Establish Goals
2. Design
3. Wait for Parts
4. Test
5. Re-Design
6. Wait for Parts
7. Test

Design Process With Thermal Simulation

1. Establish Goals
2. FEA Thermal Analysis
3. Design
4. Wait for Parts
5. Test

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