

Aerospace Success Story

Materials Evolution Strategy to Meet the Most Industry Demanding Requirements

Challenge: An aerospace company contacted us regarding magnetic permeable materials options that could be incorporated into their next generation thermal control device. The device takes advantage of the Curie Point temperature property in magnetic permeable alloys in order to control temperature very precisely. Existing commercial alloys do not have the exact Curie Point temperature that they desired.

Solution: Sandvik Palm Coast created an alloy chemistry model that predicted chemical compositional limits/ranges that seemed appropriate to meet the desired magnetic permeable properties. The model outputs were tested empirically by melting small batches of the predicted alloys in small batches and testing the resulting properties.

Result: The permeability results from the twenty (20) plus empirical runs were fed back into the model to optimize the final alloy that was developed and used for this application. This is an example of how Sandvik continues its focus towards the materials evolution strategy to meet the most industry demanding needs.

