Abstract:

Material selection is a rapidly growing multi-criteria decision-making (MCDM) problem owing to the large number of factors affecting decision making. The right choice of available material is critical to the success and competitiveness of the manufacturing organisation. The analytical hierarchy process (AHP) is a tool designed to solve MCDM problems. The AHP was applied to select a material for simple product (a key) utilising Expert Choice™ software. Confidence in the output is found to be high owing to the low inconsistency of the decision maker’s judgement. Sensitivity analysis was performed to increase the confidence in the choice of material.