

Welding Process Selection for Storage Tank by Integrated Data Envelopment Analysis and Fuzzy Credibility Constrained Programming Approach

Authors : Rahmad Wisnu Wardana, Eakachai Warinsiriruk, Sutep Joy-A-Ka

Abstract : Selecting the most suitable welding process usually depends on experiences or common application in similar companies. However, this approach generally ignores many criteria that can be affecting the suitable welding process selection. Therefore, knowledge automation through knowledge-based systems will significantly improve the decision-making process. The aims of this research propose integrated data envelopment analysis (DEA) and fuzzy credibility constrained programming approach for identifying the best welding process for stainless steel storage tank in the food and beverage industry. The proposed approach uses fuzzy concept and credibility measure to deal with uncertain data from experts' judgment. Furthermore, 12 parameters are used to determine the most appropriate welding processes among six competitive welding processes.

Keywords : welding process selection, data envelopment analysis, fuzzy credibility constrained programming, storage tank

Conference Title : ICAMT 2018 : International Conference on Advanced Manufacturing Technology

Conference Location : Bangkok, Thailand

Conference Dates : August 30-31, 2018