

POPULAR FUEL CELL TYPES - A BRIEF REVIEW⁴

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Abstract: Fuel cells (FCs) are well-known and very efficient devices that utilize the chemical energy of a fuel – most commonly of hydrogen, in order to generate electricity. Namely due to the high efficiency, as well as the compactness, stable operation under different conditions, high flexibility, and the low environmental impact, fuel cells are applicable in many sectors and are regarded as a potential replacement of internal combustion engines. Depending on the type and size, fuel cells can be successfully utilized in electronic devices; personal equipment; commercial back-up or surveillance systems; in all types of vehicles, in ships; and for power and/or heat generation. There exist various types of fuel cells suitable for different applications which can be divided based on fuel and electrolyte type, operating pressure and temperature, electrical efficiency and other criteria. This research aims at briefly reviewing the basics of the fuel cell technology in order to highlight its benefits and reliability, as well as to mention and compare the most popular and widely used types and their applications.

Keywords: Fuel cell, Hydrogen, Energy efficiency, Electrolyte, Anode, Cathode.

⁴ Report Awarded with “Best Paper Cristal Prize – 60th Annual Scientific Conference - University of Ruse and Union of Scientists – Ruse "New Industries, Digital Economy, Society - Projections of the Future IV" 29 October 2021, ISBN 978-954-712-864-4