Study Findings from UTBM Provide New Insights into Hydrogen Energy (Characterization process to measure the electrical contact resistance of Gas...

Study Findings from UTBM Provide New Insights into Hydrogen Energy (Characterization process to measure the electrical contact resistance of Gas Diffusion Layers under mechanical static compressive loads)

By a News Reporter-Staff News Editor at Energy Weekly News -- Data detailed on Energy - Hydrogen Energy have been presented. According to news reporting originating in Belfort, France, by VerticalNews journalists, research stated, "Recent research has identified the mechanical properties of the fuel cell internal components (in particular, the Gas Diffusion Layers-GDLs) as key-parameters to obtain high final performances of the generator. The mechanical compression modulus of these components, the stability of their mechanical properties with respect to temperature and humidity, and their ability to interact with water have an impact on the electrical contact resistances in the stack and, by consequence, on the overall performance of the electric generator."

Financial support for this research came from ELICOP.

The news reporters obtained a quote from the research from UTBM, "Reducing the losses by contact resistance is an objective necessary to optimize the fuel cells in operation. The study of GDL electrical behavior under various internal operating conditions provides a suitable database to better understand their effects on the overall stack performance. This paper describes an experimental method for measuring the electrical contact resistance versus the static mechanical pressure applied to the GDLs. A nonlinear behavior of the electrical contact resistance versus the mechanical stress is observed."

According to the news reporters, the research concluded: "The PTFE and MPL additions modify the electrical contact resistance."

For more information on this research see: Characterization process to measure the electrical contact resistance of Gas Diffusion Layers under mechanical static compressive loads. *International Journal of Hydrogen Energy* , 2017;42(37):23920-23931. *International Journal of Hydrogen Energy* can be contacted at: Pergamon-Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, England. (Elsevier - www.elsevier.com; International Journal of Hydrogen Energy - www.journals.elsevier.com/international-journal-of-hydrogen-energy/)

Our news correspondents report that additional information may be obtained by contacting S. El Oualid, UTBM, FCLAB, FR CNRS 3539, F-90010 Belfort, France. Additional authors for this research include R. Lachat, D. Candusso and Y. Meyer.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1016/j.ijhydene.2017.03.130. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Belfort, France, Europe, Hydrogen Energy, Energy, UTBM.