

Information about metal seals in clamp connections on fuel cells for the vehicle sector

High temperature metal seals for fuel cells

Quick closing and opening tube connections are a prerequisite for trial running of fuel cells. So-called fuel cell stacks are being further developed increasingly as electro-chemical energy transformers for stationary energy supply and for vehicle operation as an alternative, environmentally friendly energy source. The systems have to be installed and disassembled frequently in the research laboratories of the automotive, aircraft and shipbuilding industries. Temperatures of 750 °C are achieved in operation of the solid oxide high temperature fuel cells („SOFC“). For the fuel cell test benches of the German Aerospace Centre (DLR) in Stuttgart, LINNEMANN GmbH in Tübingen supplies quick-opening tube connections, e.g. with DIN 32676 flanges, in which rubber seals are usually used. Since these are only useful up to 200 °C, metal seals were developed for higher temperatures. LINNEMANN supplies metal seals and flanges of high grade steel 1.4404/1.4571 and higher temperature resistant high grade steels such as Alloy 625 with which the stacks at DLR can be connected to the supply lines at the high temperatures.



Fig.: Stack connections with clamp connection and metal seal

Source: LINNEMANN / ElringKlinger AG

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