

# **DESIGN AND MANUFACTURE OF CFCL'S MODULAR AND THERMALLY CYCLABLE STACK TECHNOLOGY**

Karl Föger and Jonathan Love  
Ceramic Fuel Cells Ltd  
170 Browns Road, Noble Park, Victoria 3174,  
Australia

CFCL is developing a 40 kW technology capability demonstrator and market entry product operating on Natural Gas. Key system design criteria include reliability, efficiency, modularity and costs. A commercial product needs to be reliable in providing power after multiple cycles between off and full operational state without loss in efficiency. These system design criteria also apply to the stack, and to fulfill these requirements, CFCL developed a novel modular stack technology. Due to the inherent operation of SOFC above 700°C the design of an SOFC stack must ensure full functionality after a number of thermal cycles. This paper describes the design and fabrication of an SOFC stack that aims at achieving the requirements of multiple thermal cycles, high efficiency, modularity and potentially lower costs.