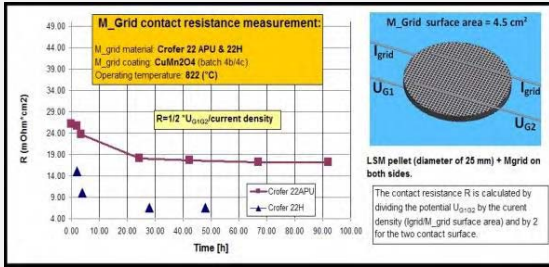


### Crofer 22H & Nickel M\_Grid™

**Crofer 22H M\_Grid™** is used to increase the cathode current collection in *planar or tubular* stack. A protective layer of  $MnCo_2O_4$  or  $CuMn_2O_4$  is applied in order to decrease the chromium evaporation and improve the electrical contact. With the latter, contact resistance less than 10 ( $m\Omega \cdot cm^2$ ) are obtained. Crofer 22H M\_Grid™ can also be used as **air diffuser** welded on a Crofer plate.

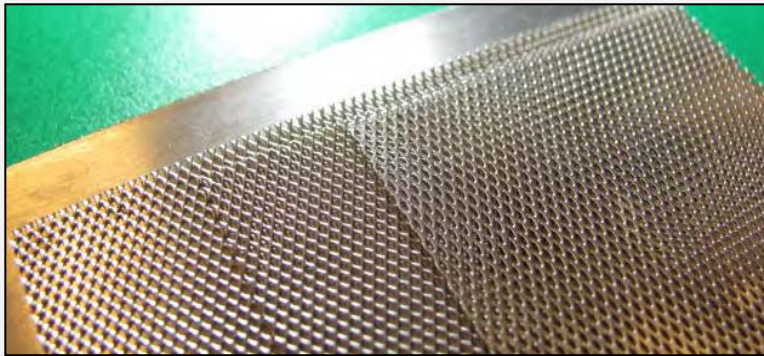


Contact resistance at 822 (°C), lower than 10 ( $m\Omega \cdot cm^2$ ), is obtained with Crofer 22H and  $CuMn_2O_4$  spinel as protective layer.

Crofer 22H M\_Grid™ coated with 5-10  $\mu m$  of  $CuMn_2O_4$  for interconnect improvement.

M\_Grid™ for tubular systems. The micro grid is generally wavy for stacking bank of tubes.

**New Nickel M\_Grid™** is used both in *planar or tubular* stack system to collect the current and also as **gas diffuser**. In this latter case, a calendered Nickel M\_Grid™ is welded on a coarser micro grid to ensure fuel diffusion.



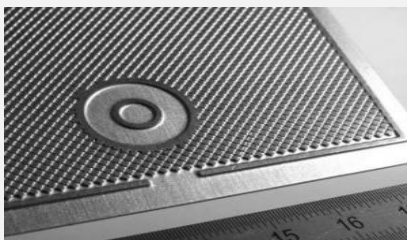
*Left:* Three layers of M\_Grid are welded on the Crofer plate. Two for gas diffusion (0.3 mm/layer) and a smooth one (calendered at 0.2 mm) for current collection



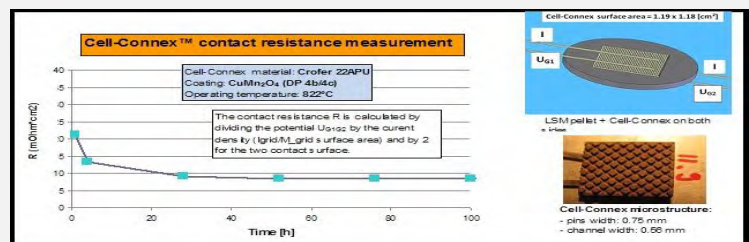
*Right:* Collection spiral made with Nickel M\_Grid for the inside of a tubular system

### Cell-Connex™ for stack prototyping

Cell-Connex™ has been engineered for low pressure drop and optimal electrical contact



The pattern structure of the Cell-Connex™ is very fine (<1 mm between each pin). It thus provides optimal current collection



Crofer 22 APU Cell-Connex™ contact resistance measured at 822 (°C) for a hundred of hours. With the  $CuMn_2O_4$  spinel protective layer, the contact resistance is lower than 10 ( $m\Omega \cdot cm^2$ )