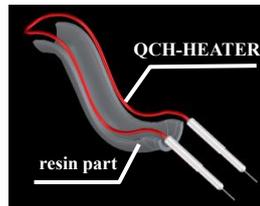


Covalent Receives Award for Industrial Development from Japan Fine Ceramics Association

Covalent Materials has recently received the Award for Industrial Development from the Japan Fine Ceramics Association for the QCH-HEATER in recognition of the product's significant contributions to manufacturing in the electronic and automotive parts industries. The award is given to individuals and companies who have made remarkable contributions to society by advancing the fine ceramics industries through excellent research and development.

As a heater used in electronic parts manufacturing, the QCH-HEATER has helped improve the functionality and productivity of electronic parts and has made precision 3D welding possible, which has contributed to the realization of lighter-weight automotive resin parts and reductions in labor time. Reception of the Award reflects the high esteem in which the QCH-HEATER is held as an innovation in the manufacturing process.

■ EX: The QCH-HEATER for
3D welding of
resin part



3D image



QCH-HEATER
(actual product)

The QCH-HEATER consists of a 3D-shaped quartz glass tube containing a high-purity carbon wire. It can be used in atmospheric conditions as well as in vacuum environments. Compared to metal heaters, the QCH-HEATER has superior features such as:

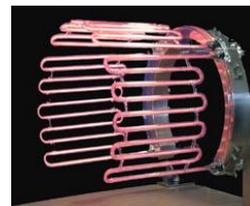
- **Rapid heating and cooling.** The QCH-HEATER can go from room temperature to 1000°C in 2-3 seconds, therefore its rapid heating and cooling function eliminates residual heat times that occur with conventional heaters. Time spent waiting while the desired temperature is reached can be shortened, contributing to reduced processing times and energy efficiency.
- **Clean heating environment.** Metal contamination produced by metal heaters is eliminated since heat from the QCH-HEATER is produced by light and a non-contact method. A clean heating environment can be realized.
- **Complex shapes are possible.** In addition to straight lines, W-shapes, ellipses and spirals can be designed. Flat planar surfaces as well as 3D configurations can also be designed.



High-density W-shape



Spiral



3D W-shape