

CERAMIC SOLUTIONS GLASS-TO-METAL AND CERAMIC-TO-METAL ASSEMBLIES



With over 200 years of history, **SOLCERA** has been supporting the development of advanced ceramics in France.

Owned during a long period of time by major industrial groups, it is now an **independent company** with its 2 facilities in Evreux and Moissy-Cramayel.

Our strategy relies on an extensive know-how in designing and manufacturing **technical ceramics**, as well as **glass-to-metal** and **ceramic-to-metal assemblies**. Our products and solutions are based on advanced technologies, making use of a wide range of oxide and non-oxide ceramics developed in-house.

Our facilities are both **vertically integrated**, giving us complete control over the entire manufacturing process: powder preparation, shaping, heat treatment, machining, finishing, assembling and inspection. The production of prototypes as well as small and medium-size series is carried out by our specialists, whose broad expertise and know-how have built our company's reputation for excellence. Our process and materials competencies, combined with the exceptional characteristics of high-performance ceramics, give us a strong presence across a number of **cutting-edge industries** such as aeronautics, aerospace, agriculture, national defense, nuclear power, luxury goods and research.

Remaining attentive to the needs of our customers and focusing on co-development, we design and manufacture products that meet the **most demanding environments**: corrosive or abrasive applications, high temperature, electrical insulation, high pressure, cryogenics, vacuum and ultra-vacuum resistance.

We provide **technical support** right from the system design stage and we are proactive in finding solutions for developing prototypes able to validate working hypotheses.

Our **long-term partnerships** with major public and private sector players, the internal transmission of knowledge and our **R&D** team dedicated to **innovation** are all key elements that ensure the growth of our company and the longevity of its know-how.



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CERAMIC SOLUTIONS

Our vertically integrated Evreux facility, the company's headquarters, houses all the industrial and human resources necessary to design and manufacture high-performance ceramic components as well as an R&D department focused on the development of innovative materials and processes.

Our products are used in very demanding applications such as infrared and electromagnetic windows, armor plates, aerospace electrical insulators, oxygen sensors for metal industry, special crucibles for laboratories, ceramic nozzles for water treatment facilities and upscale watch industry components.

Our Moissy-Cramayel facility, formerly Vermetal, uses its long-standing expertise to provide solutions tailored to our customers' specific needs in the field of ceramic-to-metal assemblies, glass-to-metal sealing, high-precision ceramic machining and flash lamps.

ADVANCED TECHNOLOGIES SERVING THE NEEDS OF OUR CUSTOMERS



ASSEMBLY SOLUTIONS

Our products are used in high-tech equipment such as electron guns and X-ray sources for the medical sector, vacuum processing machines, industrial and aeronautical sensors, particle accelerators, high-power lasers, satellites or atomic clocks. Many components are also used for national defense and nuclear applications.



CERAMIC-TO-METAL BRAZING

Brazing is the process of fitting two parts together permanently by melting a filler metal between them. This technology ensures a leak-proof seal and vacuum resistance, and is of particular interest compared to other joining methods such as welding, gluing or screwing.



GLASS-TO-METAL SEALING

Assembly process resulting from glass fusion onto metal at high temperature. The glass-to-metal technology has the advantage of allowing for complex shaping.





EXAMPLES OF PRODUCTS:

• Ultra-vacuum and high-voltage feedthroughs (ceramic-to-metal or glass-to-metal assemblies)

- Multi-pin and coaxial connectors (ceramic-to-metal or glass-to-metal assemblies)
- Machined ceramics
- Windows
- Gauges
- Filaments for leak detectors
- RX tubes
- Flash lamps

High-pressure applications good excellent Metallic materials compatibility wide narrow excellent excellent Helium leak-proof 10⁻¹² mbar.l/s/cm² 10⁻¹² mbar.l/s/cm² Insulation and electrical performances excellent good Temperature resistance excellent good Geometric accuracy excellent good Corrosion resistance excellent good Assembly mechanical strength good excellent

Ceramic

Glass

Solcera has a strong know-how in both assembly technologies.

Our experts will guide you in chosing the solution that better meets your needs.



SOLCERA provides quality products and services while operating in a manner that responsibly protects the environment and safety of its customers, employees, suppliers and service providers:

- Quality assurance
- Respect for the environment
- Priority on health and safety



You have a development project, wish to establish a partnership, are looking for technical expertise:



