SPARK PLUGS
Instantaneous Ignition
A spark plug is a simple, but important component of the system that allows instantaneous ignition of a burner in cooking hobs, built-in ovens and free-standing cookers. Moreover, in addition to the traditional functions, it can be exploited, combined with an electronic card, as a flame detector device too, especially on top-of-the-range hobs, in which it re-ignites the flame in case of unintentional switching-off. Key success factors of CastFutura spark plugs are numerous: accurate choice of raw materials, constant monitoring of manufacturing processes and close co-operation with our customers. All of our efforts are aimed at generating optimum conditions to guarantee instantaneous ignition from the very first spark!

A Variety of Solutions
Our product range covers all requirements for connecting to any burner, for both the hob and the oven, sold on the market. We supply several versions divided according to the type of usage:

- **Spark plugs with wire** (both hobs and ovens)
  They are the most frequently used. Made with a built-in wire that can be of different materials - FEP, MFA, PFA, PTFE, GSV - according to operating temperatures and installation.

- **Spark plugs with wire and cover** (only ovens)
  The wire is covered with glass fiber and silicone to enhance resistance both to temperature and cuts and scratches, while going through holes in metal sheets during assembly.

- **Spark plugs with faston** (both hobs and ovens)
  They are used where the wiring is already pre-assembled in the hob.

- **Spark plugs with double ceramic isolator**
  Used in situations where there is the need to distance the wire from the highest temperature area in the cavity.

- **Spark plugs with metal bracket** (only ovens)
  They are used where a screw is required for directing the tip of the electrode to its final position or where a mechanical fixing to the burner is forseen.

3000 Items and more
We manage more than 300 types of ceramic isolators. This, matched with cable lengths and types, allows us to supply more than 3000 items.

Features
CastFutura spark plugs are optimal in:

- **Enduring high temperatures**
- **Electrical isolation**
- **Mechanical resistance**

The body is made in ceramic, usually enameled, and with high percentages of alumina. This allows for a solid and safe fixing to the burner avoiding the risk of cracks or breaks, resisting to assembly pressures.

Customization and Integration with Other CastFutura Products
Sizes and shapes of ceramic bodies can be customized to customer requirement. CastFutura supplies a free-of-charge co-design service, offering all its experience accumulated through decades, both in lab tests and in final applications. The ideal environment for our spark plugs is in connection with our thermocouples, both for oven and hob, and with our oven burners. They overall embody a system naturally designed to fit together and generate synergies.
COMPONENTS AND CUSTOMIZATIONS

All components forming our spark plugs are perfectly compliant with RoHS regulation.

1. Ceramic Body
It is made in alumina with a percentage superior to 92%. It is manufactured, partly inside, with two technologies: low-pressure injection and extrusion according to shapes and volumes.
At the end of the process the component is enameled at high temperature (up to 1000° degrees).
The outcome is a solidly built component with a suitable electrical isolation and pleasing aesthetics.

2. Electrode
Usually made in stainless steel Aisi 304 or 430. In specific applications, where it is necessary to guarantee a sound performance over 600° or where the flame detection feature is requested, they can be made in Kanthal or NiCr 80/20.

3. Connection
The most common connecting device is faston, female 2.8 x 0.8 mm.
On request, we supply a vast range of cylindrical connections and pins for connecting with electronic cards.

4. Faston Cover
Always made in nylon to guarantee an operating temperature of 135°. For assembly in small spaces a thermo-retractable olefins tube is used with resistance to temperature similar to that of nylon.

5. Wire
Connecting wires can be made in different materials:

   a. Siliconic based (dielectric voltage -15KV/mm)
      With internal core in natural copper, covered in THT silicon rubber with 250°C continuous working temperature and covered in fiberglass to give maximum mechanical robustness during the assembly stage.

   b. Teflon based (dielectric power -20KV/mm)
      This family is made up of 3 basic types:
      - FEP. Suitable for continuous working temperature of 200°C and usually used together with a natural copper wire.
      - MFA. Suitable for continuous working temperature of 240° and used together with a tin plated copper wire.
      - PFA. Suitable for continuous working temperature of 260°C and used together with a silver-plated copper wire.
      In this case the external standard diameter used is 1.65mm to improve mechanical resistance to cutting.
      Larger diameters, up to 1.8 or 2 mm, are offered where a higher resistance to cross plate holes is requested.

6. Internal Connections
The connection between wire and electrode is made using specific connections, according to the typology of the electrodes.

At request we supply fixing accessories in kit. That can be customized, if necessary.