

# Ceramic



## More innovative than ever

The word ceramic is derived from the Greek word *keramos*, which means 'burnt stuff'. Ceramic is a non-metallic mineral material that undergoes treatment in a high-temperature environment. Although man has been using ceramic materials for thousands of years (bricks made with clay and hardened by fire are an early building material), the 20th century has witnessed remarkable advances in the area of industrial ceramics.

Many types of ceramics exist, each with unique properties suited to a variety of applications such as automobiles, aviation, medicine, space exploration, and, of course, watchmaking!

## Exceptional properties

Ceramic offers remarkable properties. It is scratch resistant, anti-allergic and resistant to all types of chemical attacks, high temperatures, friction and abrasion. Add to this its aesthetic beauty and you have a more-than-worthy candidate for creating a luxurious timepiece. High-tech ceramic combines a timeless elegance and a refined touch concealing a hardness that is difficult to match.

## Measuring hardness

Hardness is defined as the ability of a body to withstand an attack from another body. A variety of methods exist for measuring hardness, with varying degrees of precision. The Vickers hardness test, for example, consists of impacting a test body with a pyramid-shaped indenter made of diamond, the hardest mineral known. The impact is applied with a specific force for a given amount of time. The size of the indentation made in the body is then used to calculate the hardness of the material. In order to compare the hardness of different materials it is necessary to use the same basic parameters.

### Comparative hardness table \*

Gold	100 HV
Steel	600 HV
Ceramic	1250 HV
Hard metals	1500 HV
Sapphire crystal	2200 HV

\* HV denotes Vickers hardness