



## **CERACHROM BEZEL INSERT AND CERACHROM BEZEL**

### **VIRTUALLY SCRATCHPROOF, NON-FADING AND HIGHLY LEGIBLE**

The bezel is one of the most visible parts of a watch and one of the most exposed to shocks, scratches, corrosion and other environmental factors. With the robustness and durability of its watches in mind, Rolex developed and patented the Cerachrom bezel insert and the Cerachrom bezel for specific Professional models in the Oyster collection.

Thanks to the particularly durable properties of these high-technology ceramic components, the watches retain all of their beauty and functionality even in the most extreme conditions.



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### PATENTED HIGH-TECHNOLOGY COMPONENTS

Manufactured by Rolex from a particularly hard, corrosion-resistant ceramic, the Cerachrom bezel insert and the Cerachrom bezel are virtually impervious to scratches, and their colours are unaffected by ultraviolet rays. This ceramic also offers excellent polishability, giving these components an exceptional, long-lasting lustre.

### FROM BEZEL INSERT TO MONOBLOC BEZEL

Introduced in 2005 on the GMT-Master II, the Cerachrom bezel insert, the first high-technology ceramic component developed by Rolex, appears today on the Yacht-Master and Yacht-Master II, as well as on the divers' watches: the Submariner, Submariner Date, Sea-Dweller and Rolex Deepsea. Depending on the watch, the ceramic bezel insert is black, blue or green.

Rolex then expanded the application of this exclusive technology by designing a monobloc ceramic bezel: the Cerachrom bezel, introduced on the Cosmograph Daytona in 2013. Available today in chestnut brown or black ceramic, this monobloc bezel is extremely resistant and offers peerless aesthetics. It holds the crystal firmly in place, ensures waterproofness and offers an exceptionally legible tachymetric scale.

### EXCLUSIVE TWO-COLOUR CERAMIC

In 2013, Rolex introduced its first two-colour, single-piece ceramic bezel insert – a world first. Blue on one half and black on the other, it was fitted on a GMT-Master II in Oystersteel. In 2014, it was launched in red and blue on an 18 ct white gold version. The latest innovation: the two-colour insert in brown and black ceramic featuring on two GMT-Master II models – one in 18 ct Everose gold, and the other in an Everose Rolesor (combination of Oystersteel and 18 ct Everose gold) version – unveiled at Baselworld 2018.

### IN-HOUSE MANUFACTURE

The manufacture of the Cerachrom bezel insert and Cerachrom bezel is entirely carried out in-house by Rolex. The brand has installed exclusive equipment to perfectly master the manufacturing process and thereby guarantee the quality of these components.

The basic ceramic material is a very fine zirconium dioxide or aluminium oxide powder, whose particles are less than one micron (one-thousandth of a millimetre) in diameter. It is mixed with organic binding agents that allow it to be moulded and pigments that will give the final desired colour.



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The raw material, which at this point has very low resistance, is shaped by high-pressure moulding to create a blank. This step gives the piece its shape and moulds the numerals, graduations and inscriptions, whether they are indented or raised. Once the blank is removed from the mould, it undergoes a heat treatment to remove the binding agents. It is then fired at a very high temperature – up to 1,600°C – in a process known as sintering, during which the ceramic acquires its definitive hardness and mechanical resistance. Its resistance after the sintering is akin to that of steel, but its hardness is much greater. During firing and sintering, the piece contracts by approximately 25 to 30 per cent and acquires its final colour or colours. Final precision machining gives each piece its definitive shape and size for assembly. As the material has now acquired its characteristic hardness, this operation requires the use of diamond tools.

### THE CHALLENGE OF TWO-COLOUR BEZELS

The innovative process developed by Rolex to obtain the unique two-colour Cerachrom bezel inserts for the GMT-Master II consists in changing the colour of the ceramic on one half of the insert. On the blue and black bezel insert, the blue is coloured black, but on the red and blue version, half of the red bezel is changed to blue. On the brown and black bezel insert, the brown is turned to black. The change of colour is achieved by impregnating half of the insert with an aqueous solution containing various chemical compounds. The solution is added before the sintering process, during which the ceramic acquires its mechanical resistance properties as well as its colour or colours. In the course of this sintering, the ceramic densifies and the added compounds react with the basic elements of the Cerachrom insert, which alters the initial colour on one half of the insert.

The two-colour Cerachrom bezel insert obtained presents a clear demarcation between the two coloured areas. Because it is manufactured in a single piece, the insert acquires mechanical resistance properties which respond to the quality and reliability demanded of a Rolex product.

### GOLD OR PLATINUM DEPOSITION

For optimum legibility, the numerals, graduations and inscriptions are moulded in the ceramic and then coated with a thin **layer** of metal -- yellow or pink gold or platinum, depending on the watch material – approximately one micron thick, using a PVD (Physical Vapour Deposition) process. A final polishing removes the metal from the rest of the bezel's surface and achieves a smooth and lustrous finish. The precious metal coating on the numerals, graduations and inscriptions remains, making them clearly visible.



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QUALITY AND LONGEVITY

Throughout the production process, the components undergo systematic quality controls to check the precision of their geometry, their mechanical properties and their colour or colours. Once they have passed all the tests, the Cerachrom bezel inserts or Cerachrom bezels are ready to flawlessly fulfil their purpose for many years.