

MALO CLINIC

THE ART OF CREATING SMILES



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DENTAL MEDICINE THE BENEFITS OF USING PEEK



What is PEEK?

PEEK is the abbreviation commonly used to refer to polyether ether ketone. It is a high performance plastic polymer that is being used in various industries for several years now thanks to its particular physical characteristics and mechanical properties.

Where is it used?

PEEK is currently used in a wide range of industries and sectors. In engineering it is used both in the automotive industry and in the production of components for the aerospace industry. In medicine it began to be used about 15 years ago, in the production of different orthopaedic prostheses and, more recently, it began to be used also in dentistry, in the manufacture of abutments, crowns and implant infrastructures such as the MALO CLINIC Bridge.

What are the differences compared to other materials, such as titanium?

There are several advantages associated with PEEK compared to other materials. It is easier to work, more aesthetic and, moreover, it is as much or even more biocompatible. Despite its high resistance, PEEK is also quite resilient, with a kind of "memory effect" that allows it to return to its initial position. This resilience allows it to act as a kind of shock absorber, absorbing part of the masticatory forces.

In short, what are the advantages of PEEK?

The main advantages of PEEK are its physical and mechanical characteristics, and also its high resistance to wear and fracture. Although extremely resistant, it has a high capacity to absorb forces due to its resilience and flexibility. What's more, it is much lighter than materials with the same strength levels. It is also a material that resists to high temperatures and it does not suffer any changes under aggressive environments. The results of its application have been quite satisfactory, presenting a low number of mechanical and biological complications, reduced bone loss and less inflammation when compared to the use of metals.

What improvements may still occur regarding the use of this material in dentistry?

Currently there are already several colours for PEEK, with resilience varying from colour to colour. At MALO CLINIC two are used, the normal one and oyster white, which is less resilient. In the near future, however, it would be important for PEEK to have colour improvements, as well as even more developments in terms of resilience.