Metaloflex™ - metal layer cylinder head gasket:
Composition

In modern engines, Metaloflex™ cylinder head gaskets are well-established as part of the global scene. As key components, they contribute to efficient, reliable, and economical engine operation.

Requirements of cylinder head gasket

The cylinder head gasket ensures a reliable seal between the cylinder head and block for fuel gases, coolants, and engine oil. It also acts as a load transmission element between the crankcase and the cylinder head, and as such, has considerable influence on the distribution of forces within the entire distortion system and the resulting elastic component deformations.

The technical strength of the metal layer cylinder head gasket is especially apparent in diesel engines and high-performance gasoline engines with direct injection. Introduced to the European market by ElringKlinger at the beginning of the 90’s, today this sealing system reigns supreme in the international automotive industry. With Metaloflex™, ElringKlinger is the world’s largest manufacturer of metal layer cylinder head gaskets.

With our series of Technical Service Informations you will get an understanding of gasket know how stepwise.
The optimum interaction of the individual design elements of Metaloflex™ metal layer cylinder head gaskets guarantees the functionality and reliability of the sealing system.

**Half beads**  
Half beads generate two-line compression. They seal along the coolant and engine oil passages, around the bolt holes, and the circumference of the outer sealing contour.

**Full beads**  
Full beads generate three-line compression around the circumference of the combustion chamber. This elastic sealing element enables the sealing of very high ignition pressures, even in the presence of large dynamic sealing gap oscillations.

**Functional layer**  
These elastomer-coated spring steel layers are equipped with elastic beads.

**Center layer**  
The main function of the center layer is to adapt the gasket thickness to the installation conditions required by the design.

**Stopper**  
The engine components are elastically prestressed by the stopper around the circumference of the combustion chamber. This helps achieve a reduction in the sealing gap oscillations caused by the gas force, while simultaneously preventing an impermissible deformation of the full beads. After folded stopper layers and laser-welded stoppers, coined stoppers represent the newest generation of modern stoppers.