



*Technical Report #13*

***Performance of metal accessory  
gaskets with elastomer coating***

## Technical Report

### Purpose

*Justify the use of metal gaskets with elastomer coating to guarantee sealing in bonding areas between certain parts of the engine.*

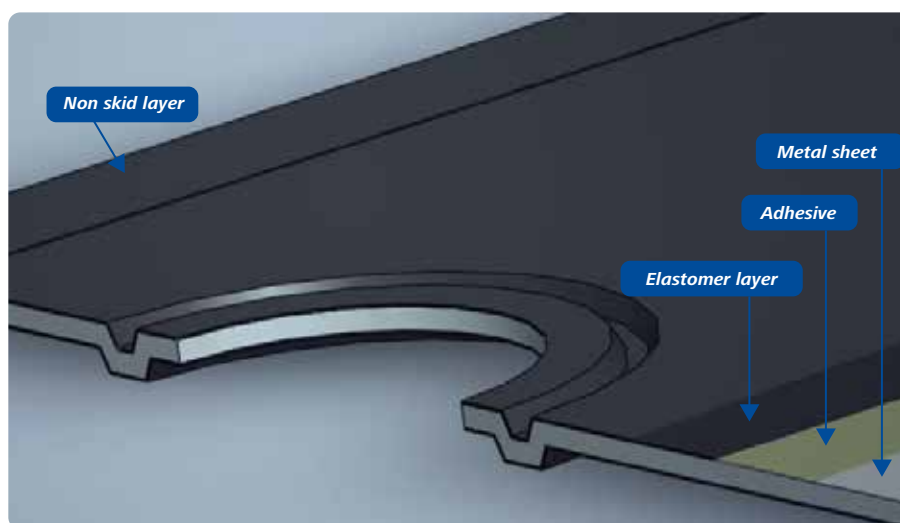
### Introduction

*The current trend in the design of engines is to obtain more and more compact and light sets. This is a very important challenge for manufacturers, who must satisfy the requirements in design bearing in mind that mechanical and thermic requirements are increasing too. For this reason, it is necessary to introduce new elements of sealing that offer guarantees at high temperatures and increase the stiffness of the set.*

*Metal gaskets with elastomer coating assure the sealing in those areas where temperature and tensions are high thanks to the combination with steel of elastomers of a great quality. Besides, this type of gaskets helps reduce the weight of the set because they are small pieces and thin.*

### Composition.

*This type of gasket is made of a metal sheet coated on both sides with a thin elastomer layer. The thickness of these layers is selected depending on the conditions of the area to be sealed; thickness may vary its value between 25 and 150  $\mu\text{m}$ . It is also usual that the outside surfaces have a non-skid material.*



*On the other side, the quality and thickness of the steel sheet is determined by the final application of the gasket. The most important part of this component is the design of the bead, since it is the one to guarantee sealing.*



## **Features.**

*As it has been already mentioned, beads are designed to avoid both liquid and gas leakage, while the combination of elastomer material and beads of the metal sheet makes this gasket to be very resistant mechanically.*

## **Application.**

*The use of this type of gaskets is advisable in bonding areas where both mechanical and thermic requirements are very high. Currently, they are used in intake manifolds, EGR valves, oil carters, housings, thermostats and any kind of pump.*