

# Metal-elastomer gaskets – Puzzle design



## GENERAL FUNCTION

Metal-elastomer gaskets are used to seal components all over the combustion engine, but also along electric drive units. The specifically developed puzzle connection design leads to no size limitation of components that need to be sealed. Especially, for battery housing with a size of up to 2m length.



Suitable for e-mobility applications



## TECHNOLOGY

Metal-elastomer gaskets are characterized by the material combination of metal and elastomer. The metal component acts as carrier and compression limiter for the elastomer bead which finally owns the sealing function.

### ▪ NO SIZE LIMITATION

Due to the puzzle design a gasket can be split into separated single pieces which get assembled on the sealing flange.

### ▪ REDUCTION OF MANUFACTURING COSTS

The puzzle design allows to produce gaskets on smaller machines with lower hourly rate. Tool sizes can be reduced as well.

### ▪ REDUCED ASSEMBLY CYCLE TIME

Compared to pure elastomer gaskets, the metal carrier structure of metal-elastomer gaskets allows a one step assembly which can easily be fully automatized.

### ▪ IN-HOUSE ELASTOMER TECHNOLOGY

ElringKlinger's experience in elastomer technology with in-house material development including bonding technology offers a wide range of different material combinations, that can be chosen according to the application.



## ▪ REDUCTION OF MANUFACTURING COSTS

The use of metal-elastomer gaskets does not require a groove in one of the sealing components. CNC milling time at customer can be reduced or critical thin die-cast grooves can be avoided.

## ▪ EASY MAINTENANCE

In case of replacing glued sealing technology, metal-elastomer gaskets can easily be replaced with a high functionality even in the service market.



## BENEFITS

### PRODUCT BENEFITS

- No size limitation
- T-Joint sealings
- Easy maintenance as puzzled sealings can be easily removed
- Low space requirement



- Reduced manufacturing cost at customer



### MANUFACTURING PROCESS

- Lower requirements on surface quality compared to conventional metal bead gasket
- Wide range of elastomer materials (EPDM, FKM, AEM, ACM, HNBR, etc.)
- Reduced assembly cycle time
- Full automatised assembly possible



## ELRINGKLINGER – YOUR PARTNER FOR METAL-ELASTOMER COMPONENTS

Product Development (Material, Design, Engineering and Simulation) – Process Development – Prototyping – Testing – Change-Management – Series Production – Part Measurement



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