

EMC METAL GASKET – CEBLJOMET Series

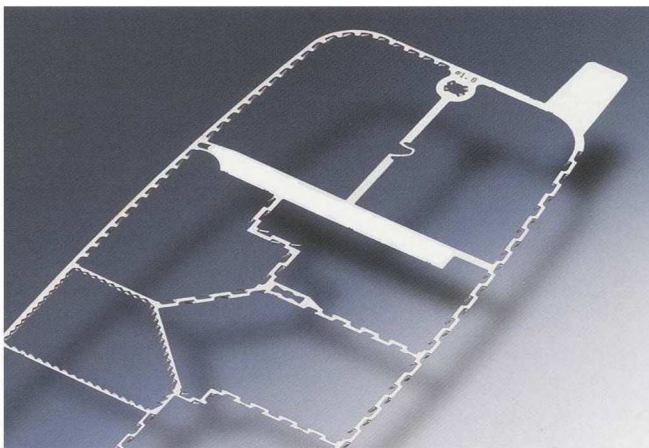
What are EMC METAL GASKETS?

EMC Metal Gaskets provide effective mechanical screening against electromagnetic radiation in mobile phones, portable computers and other forms of portable communications equipment.

Compared with conventional gaskets, EMC Metal Gaskets are characterized by low weight, low compression force, low volume and product lifetime durability.

An EMC Metal Gasket consists of a frame, typically of 0.15mm cold-rolled stainless spring steel, which follows the contour of an internal shield or a circuit board, including any internal walls and / or conductors. Small contact springs, typically 1 - 1.5 mm in length with a pitch down to 1.2mm depending on the frequency range to be screened, are constructed/integrated on the frame. Screening takes place by the springs creating electrical contact between the shield and the circuit board. To ensure low force of compression, the thickness of the springs is reduced to approx. 0.05 mm. This means easier assembly and increased flexibility of the finished product compared with other types of gaskets.

EMC Metal Gaskets supplied on tape, in trays, or as assemblies are ideal for high volume production.



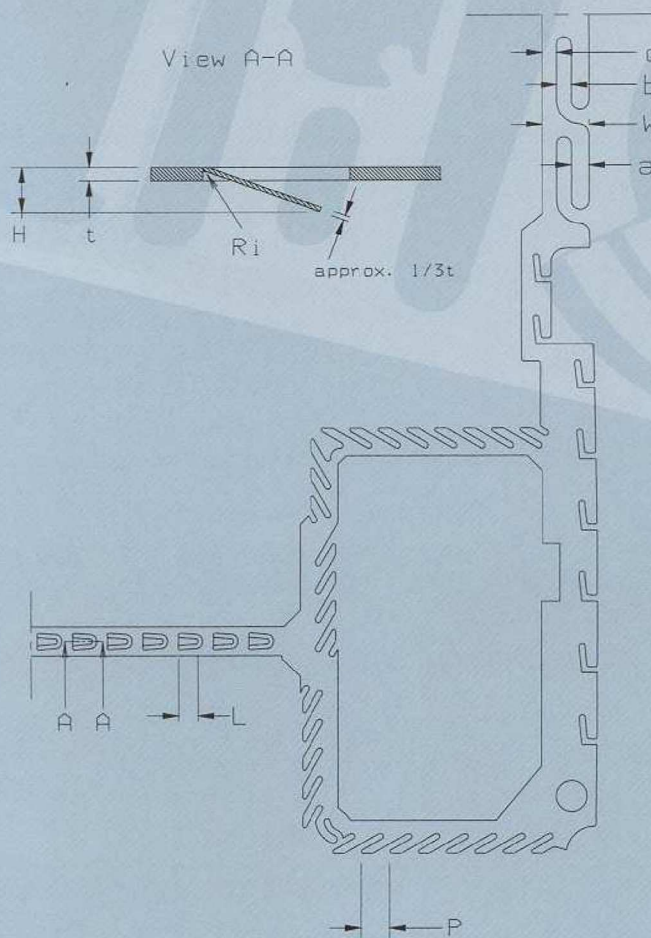
Why use the EMC METAL GASKETS?

Advantages of using EMC Metal Gaskets in design / production of devices for which protection against electromagnetic disturbances is required under the EMC directive:

- Low weight
- Low volume
- Mounted on shields
- Excellent contact characteristics between conducting surfaces means:
- Excellent EMC performance
- Low material costs
- Supplied on SMD tape or in trays which in production, process means:
 - fast assembly
 - minimal costs
 - no manual handling
- No hardening processes
- Low force of compression
- Corrosion resistant
- Product life me durability

EMC METAL GASKET

Technical specifications



Material example:

0.15 mm 7C27Mo2 hardened stainless steel.

Tensile strength: 1800 N/mm².

Modulus of elasticity: 2.1 x 10⁵ N/mm².

Bending radius:

Bend parallel with rolling direction:

$R_i = 5t$.

Bend perpendicular to rolling direction:

$R_i = 4t$.

t = material thickness.

Guiding dimensions:

Max. dimensions: 300 x 600 mm.

Min. width of frame (W): 0.80 mm.

Length of springs (L): Typically 1 - 1.5 mm.

Height of springs (H): Typically 0.3 - 1.0 mm.

Min. pitch between springs (P): 1.2 mm.

$a \geq 0.30$ mm.

$b \geq 0.25$ mm.

$c \geq 0.25$ mm.

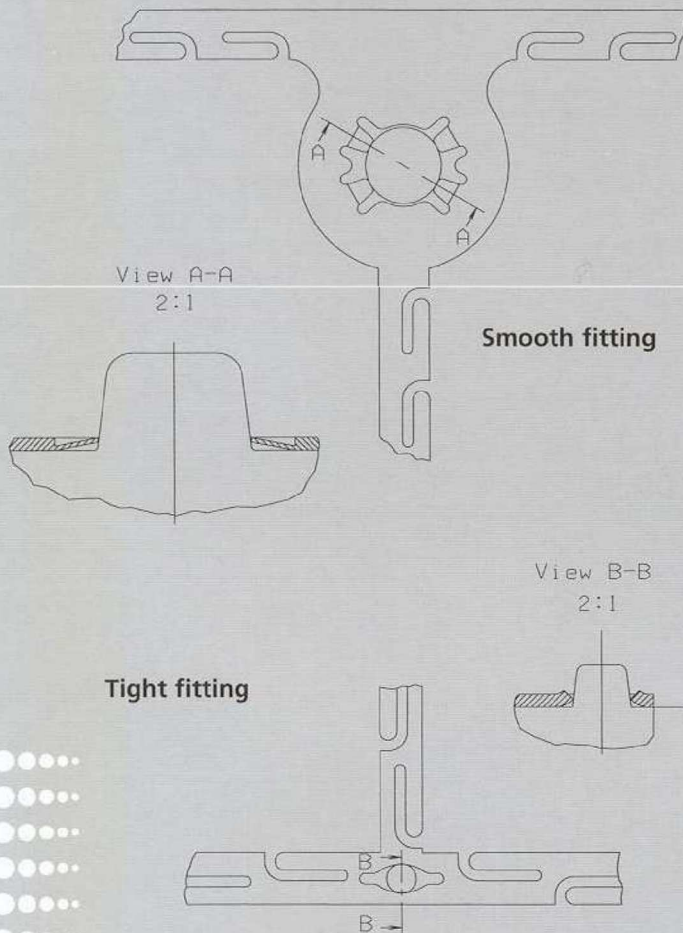
Gasket/assembly:

Supply as requested by customer, e.g. as single units, on tape or in trays for SMD assembly, or mounted on shields.

Our process controls conforms to the specifications of ISO 9002.

RF SHIELDING CONCEPT

Technical specifications
Examples of shield/gasket mounting.



Material example

Metal gasket

0.15 mm 7C27Mo2 hardened stainless steel. Can be metallised with gold, silver, chrome, tin etc.

Metal or Plastic Covers/Shields

Aluminium, magnesium, ABS, PC, PAA (IXEF), etc. Can be metallised with copper, nickel, tin, silver etc. by electroplating, electroless plating or vacuum metallisation ... Full or partial!

Design advice

The gasket is fixed to the shield by pins and locked by springs integrated in the gasket. See figure ...

Gasket/shield assembly

EMC Shields with metal gaskets can be automatically assembled in-house and supplied in SMD trays.

EMC Metal Gaskets can also be shipped (worldwide) in coils for automatic or manual assembly on shields either at or close to the customer production plant. For this solution COMPELMA can provide the necessary assembly and testing equipment as well as operator training.