

**ELASTO  
PROXY** INC.  
*The Art of Sealing*



## **EMI Gasket Fabrication**

Custom Shielding for Military and Defense

## Introduction



**EMI gasket fabrication requires more than just cost-effective cutting. Precision, accuracy, and reliability are critical. Learn how Elasto Proxy fabricates EMI gaskets made of particle-filled silicones for military and defense applications.**

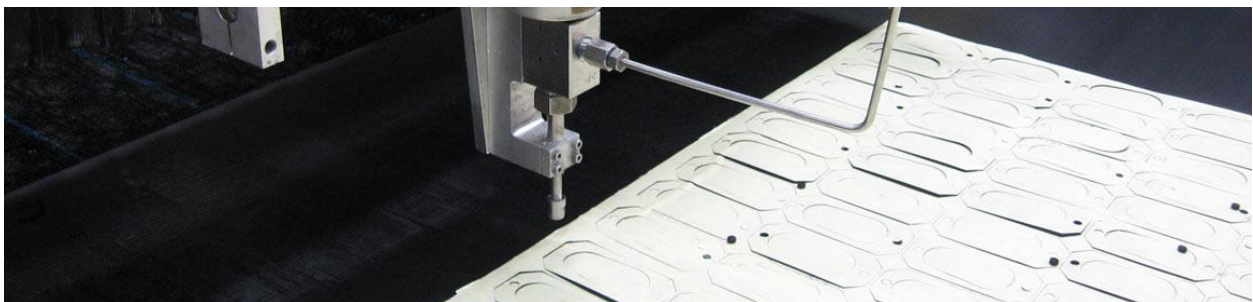
EMI gaskets made of particle-filled silicones are used with joints and seams in metal-to-metal interfaces. This EMI shielding conducts electricity and ensures conductivity even when there are discontinuities along metal surfaces.

Elastomeric shielding gaskets are filled with either metal- or metal-coated particles. These shielding materials combine the useful physical and chemical properties of silicone rubbers with reliable electrical conductivity and specific levels of resistance to electromagnetic interference (EMI).

Let's examine how the custom fabrication of EMI gaskets supports shielding for military and defense applications. Accordingly, it's important to note that product designers need these EMI gaskets in many different shapes and sizes.

In addition to square gaskets and knife-edge profiles, examples include C, D, L, and M-shaped profiles. There are various ways to convert particle-filled silicones from sheets or rolls into specialized shapes, but [water jet cutting](#) offers advantages over methods such as die cutting.

### Water Jet Technology – Fast, Precise, Cost-Effective Cuts



Water jet cutting creates fast, precise, cost-effective cuts without long lead times or tooling charges. Since there are no dies to create, revising your [EMI gasket](#) design means that you won't have to scrap your tooling. Water jet cutting supports more than just rapid prototyping, too.

Benefits include smooth joints, clean edges, perfect 90-degree corners, and cuts as small as 1/2" x 1/2" For short runs and medium-volume quantities then, water jet cutting is a rapid, reliable, and precise method for converting elastomeric EMI materials.



Here at [Elasto Proxy](#) (Boisbriand Quebec, Canada), our water jet cutting machine uses Ingersoll-Rand high-pressure heads that direct jets of 50,000 pounds per square inch (psi) towards an X-Y axis table with a 5' x 10' cutting surface.

Unlike saw or guillotine cuts, however, water jet cutting doesn't put pressure on the profile. This is important with thin cross-sections where cutting a small part could cause tearing.

As EMI gasket designers know, such tears can cause the loss of a conductive seal and allow the entry of radio

frequency (RF) waves that may interfere with sensitive electronics.

### Flat Gaskets – Punching Holes, Avoiding Tearing



Selecting a shielding silicone with a fabric or mesh reinforcement can also minimize the risk of tearing during EMI gasket production.

Elasto Proxy can recommend particle-filled elastomers that are reinforced with an inner layer of conductive fabric or metal mesh. For example, one of the silicone compounds that we can source for your military application has a tensile strength of 950 psi and a Tear "B" ppi of 165. Elasto Proxy can also recommend EMI materials that meet the requirements of the MIL-DTL-8352C specification.

With some flat EMI gaskets, military applications may require holes for bolt mounting. Experienced gasket designers understand that these holes can't be too close to the edge of the EMI gasket, and that the holes must fit the bolts precisely to avoid leakage.

With elastomeric gaskets, Elasto Proxy can create holes with diameters as small as 0.01". For the very finest cuts, our skilled production personnel use diamond tools. By listening to your requirements and analyzing all of your needs, Elasto Proxy adds value to your EMI shielding designs.



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## Visit Elasto Proxy at CANSEC (Booth #935) | Two Informational Sessions

Do you have questions about EMI gasket fabrication, or are you wondering whether shielding silicones are right for your military or security-related application?

If you're headed to CANEC 2015, [visit Elasto Proxy in Booth #935](#) on May 27 or May 28. [Email me](#) to arrange a meeting, and reserve your space at one of our informational sessions

about custom gaskets for EMI shielding. Enjoy this short video, too. It reiterates the main points in this article, and is easy to share with your defense industry colleagues.

## How Can We Help You?



For over [25 years](#), Elasto Proxy has been solving sealing and insulation challenges in a wide variety of industries. How can we help you?

[Contact us](#) at our website or via any of the methods below.

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