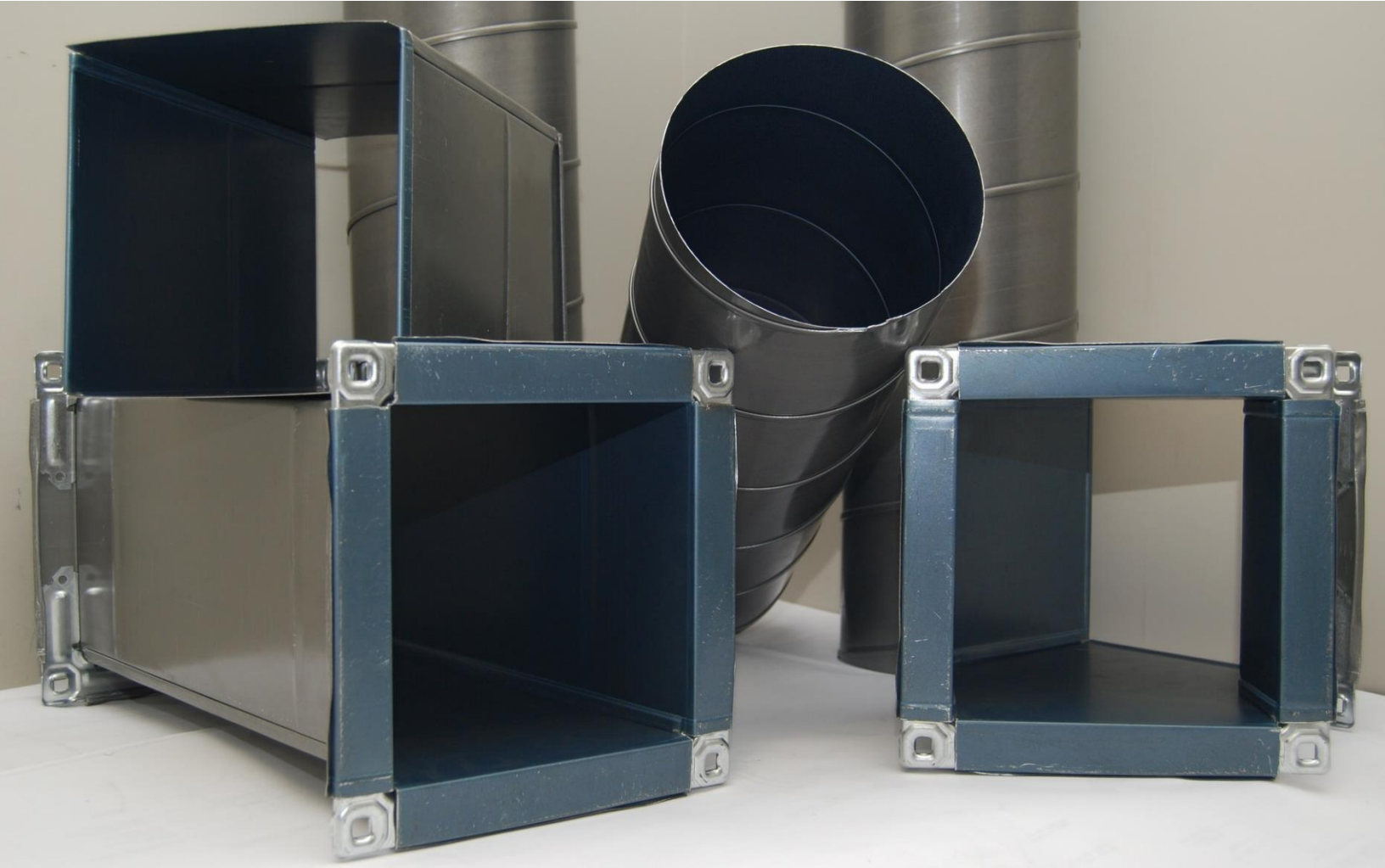




## ***Field to Factory Direct Communication***

Manufacturing and Supplying Sheet Metal Duct  
and HVAC Products since 2004



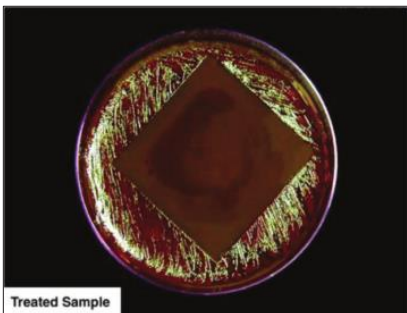
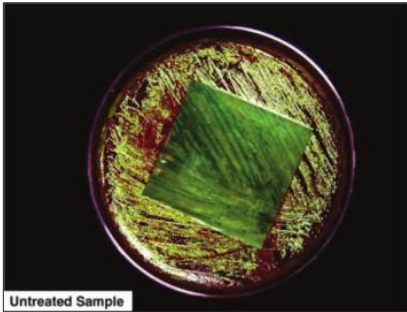
**Antimicrobial  
Coated Duct**

# Antimicrobial Coated Duct

Silver has been utilized for thousands of years from chalices and eating utensils to current electronics and medical instruments. The element was and is so widely used because of its natural antimicrobial properties. Without harmful toxins, silver has the ability to effectively suppress the growth of mold and bacteria. Due to these qualities, an epoxy coating was created with infused silver ions and is applied to the surface of sheet metal duct products.

Utilizing silver in the epoxy coating provides microbial and mold suppression, without the use of adverse chemicals. A surface protected with this elemental antimicrobial epoxy will also resist corrosion and staining. The use of the silver-based epoxy on metal products has gained popularity and is utilized in the manufacturing of HVAC duct, mechanical unit cabinets, panels, and many medical surfaces. When clean surfaces are essential in industries such as food processing, medical, and laboratory, silver-based epoxy coated products are extremely beneficial.

In HVAC systems, ductwork manufactured with this elemental antimicrobial coated metal will reduce concerns of bacteria growth and corrosion within the air stream of the duct. The silver ions in this epoxy will attract sodium ions which are found in the moisture carrying bacteria through the air stream. Once in range, the silver ions will act as a captive barrier which suppresses the sodium ions movements. This silver technology will only activate when moisture is detected, and conditions are ideal for bacterial growth. This functionality is efficient and equates to long-lasting performance.



*The photos above display the significant bacteria reduction on an untreated sample vs a treated sample*

This silver-based epoxy is a great alternative to stainless steel in mild applications and environments. In the HVAC industry, stainless steel is utilized for its unique characteristics. Stainless has the ability to resist corrosion, rust, and stains for “clean” purposes. However, stainless steel is neither completely corrosion resistant nor stain proof. Galvanized metal coated with this silver-based epoxy offers higher values of corrosion and stain resistance. A recent 10 – year analysis of the application of epoxy coating with silver ions proved its benefits over the use of unprotected stainless steel. After 5 years of the application, there was no change in efficacy or performance and resulted in the reduction of bacterial growth. After 10 years, efficacy was still unchanged and there were no measurable micro-organism levels detected in 30 of 31 swabbed areas. As much as 50% cheaper than stainless steel and with the added benefits of corrosion resistance and bacterial growth reduction, epoxy coating with antimicrobial elements is a great alternative to stainless steel both economically and efficiently.

Much of this product’s efficacy can be attributed to the application process. This silver-based epoxy is most commonly applied to the surface of G90 steel in a controlled production environment. Before the epoxy is baked on at four hundred degrees Fahrenheit, the substrate is first cleaned and pre-treated to remove any previous imperfections. Once cleaned, the epoxy is roll applied to guarantee consistencies of the coating thickness. The uniformity of this coating process allows manufacturers to utilize the material in various production methods without worry of delamination or crazing.