

MSSA

METAL SPRAY SUPPLIES AUSTRALIA
Engineered Surfaces for Exceptional Performance



Welcome to MSSA NewsWire Issue 9

In this issue we explore the various uses of Metal Spray in the **Electronics & Electrical Industries**, where Metal Spray is used extensively including for conductive, ceramic, shielding, and anti-corrosive coating processes and more.

As a response to the global pandemic, MSSA now provide "**Remote Training Services**" streaming direct from our training booth to our clients. A new and innovative approach to Metal Spray training.

We also bring you some surprising news on the use of **Metal Spray** in the fight to reduce the spread of viruses, including **COVID 19**.

Some members of the MSSA team have also taken part in the 6 minute challenge to **help raise awareness surrounding mental health issues**.

MSSA are now selling the **Green Belting range of masking tapes**, including Aluminium Foil, Silicon-Coated Fibreglass, Fibreglass and Multi-Layer tapes.

We also showcase our latest video on Hard Chrome Replacement Alternatives, exploring three alternative **Hard Chrome Replacement processes using Metal Spraying Equipment**, as well as their benefits over traditional Hard Chrome Plating.

Electronics Industry - Metal Spray Coating Solutions

As Metal/Thermal Spray coatings are typically **pure metallics with no binders**, they are very well suited to applications in the **Electronic and Electrical industry**.

Metal spray deposits are used extensively in the Electrical Industry for applications including electrically conductive coatings and resistance type heating circuits. As well as conductivity, thermal sprayed ceramic coatings can be used for their electrical insulation properties. Ceramics such as alumina can be applied by [plasma spraying](#) or [powder flame spraying](#) to create a non-conductive layer.

Metal Spraying Capacitor Ends



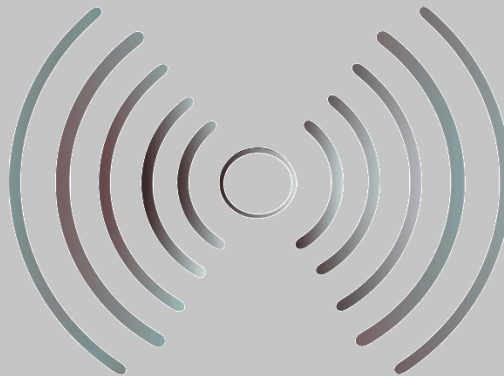
One of the very common applications that has been undertaken for over 4 decades is the **spraying of capacitor ends**. In the manufacture process of thin film capacitors, the end faces are commonly sprayed with zinc or tin/zinc alloys. The purpose of the coating is to connect the layers of the metallic foils together and to give a sturdy, robust layer to make soldered wire connections to the capacitors. [More...](#)

Earthing of Resin Insulators



The conductivity of thermal sprayed coatings is also used to help connection to resin resistors/insulators or graphite heating rods where aluminium or aluminium bronze coatings are very commonly applied. [More...](#)

Radio Frequency and Electromagnetic Interference Coatings



The Metal Spray process offers a range of coatings for protecting bio-medical devices from Radio Frequency Interference (RFI) and Electromagnetic Interference (EMI). EMI and RFI coatings can be used on any substrate including, but not limited to carbon-carbon composites and carbon-fibre composites. [More...](#)

Electrically Conductive Aerospace Coatings

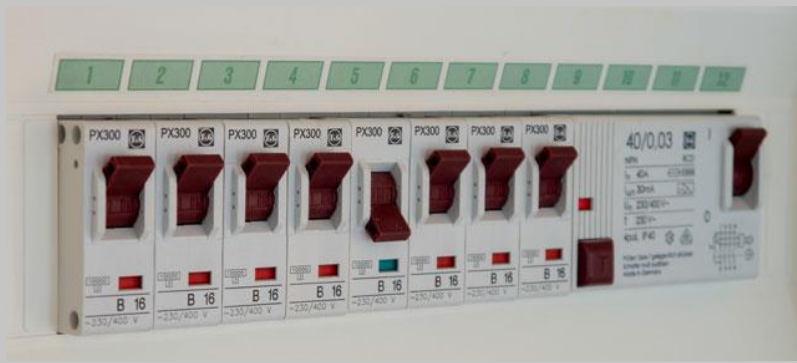


One particular application sees the Metal Spraying of **electrical heater elements onto carbon fibre parts** to efficiently **stop ice formation on aeroplane wings** at the touch of a button. [More...](#)

Faraday Cages, Switch Boxes and Other Electrical Applications



An interesting electrical application is the metal spraying of **Faraday Cages** to protect against **Electro-Magnetic Emissions**.



There are many applications of **switch boxes** being sprayed and more exciting is the use of electrical coatings in **radio-rooms of mine-sweeping boats** made from GRP.

Corrosion Prevention Coatings



Corrosion is also an issue in the electrical industry and commonly coatings of zinc, aluminium or their alloys are applied by flame spray or arc spray to steel electrical switch boxes or transformer housings to prevent from the onslaught of corrosion.

Coatings to Modify Conductivity Properties



Carbon and **ceramic resistors** and **carbon brushes** are sprayed with a thin film of **copper** to provide an electrical connection of high conductivity. Thick film **electrical circuits** carry **higher currents** than the printed type and are produced by spraying the metal onto a **non-conductive substrate** usually plastic, glass or ceramic.

Remote Training Services



In response to the global pandemic, MSSA and Metallisation have been looking to provide remote training options for customers. This training can be tailored to suit individual customer requirements.

The training will cover:

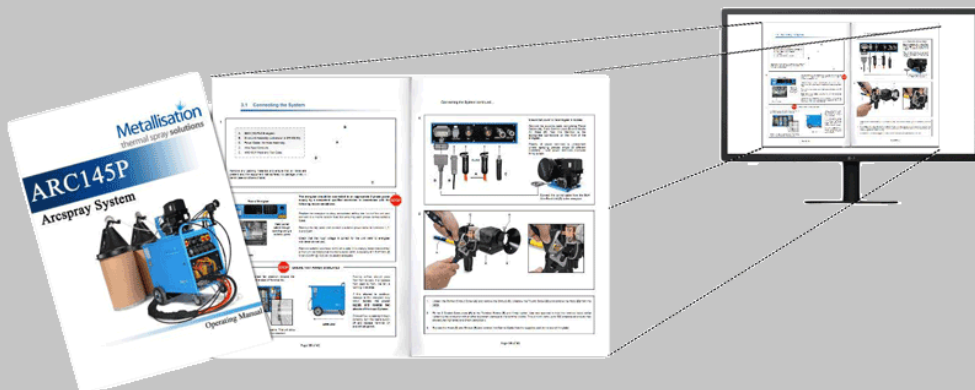
- Introduction to the Thermal Spray process.
- Equipment operation.
- Masking procedures.
- Surface preparation.
- Health & safety of Thermal Spray.

MSSA, in conjunction with Metallisation can offer the following:

Instructor-Led Video Installation with Support/Training

Instructor-led video installations are conducted from our training booth and service support via a video conference setup.

e-Training Courses

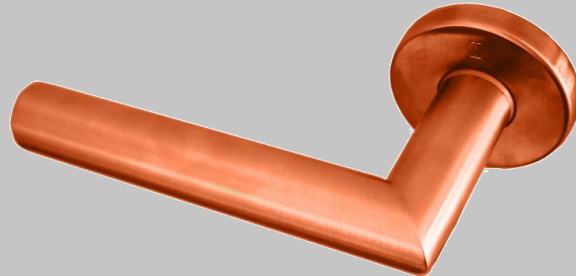


As an alternative to the instructor-led courses, we are also developing a range of e-Training courses. These can be completed in your own time and will take approximately 4 hours to complete. The course consists of a range of presentations, videos, quizzes, and useful links. It is structured to include health and safety, how to install and operate the system, as well as basic maintenance, surface preparation and basic coating application techniques.

Within the course there is an attendance/understanding certification which is attained with a pass mark of 80%. You will have 2 attempts to pass the test. All the answers are held within the course, so if you have followed and absorbed the course content, you should be able to pass. However, if after the second attempt at the course you fail to pass, you will need to contact MSSA to reset the course. You will then be given some feedback on the areas that you need to focus on before re-attempting.

[For more information, please contact MSSA directly.](#)

Anti-microbial properties of Copper lowers COVID Risk



Metal Spray is proving to be a cost effective solution in helping to reduce the risk of the spread of viruses including COVID 19.

In 2008, the United States Environmental Protection Agency (US EPA) recognized **copper as the first anti-microbial metal**. It has been demonstrated that copper surfaces reduce the microbial burden of high touch surfaces in the hospital environment. **Solid copper surfaces killed 99.9% of microorganisms within two hours of contact**. The rate of this antimicrobial activity has a magnitude of 7 to 8 logarithms per hour and generally no microorganisms are recovered after longer incubation periods. The bactericidal activity of copper is mainly attributed to the release of ions, which affect the integrity of the bacterial wall, generate intracellular oxidative stress and are genotoxic, resulting in the death of microorganisms.

Typical application areas for hospitals include:

- Healthcare bed rails.
- Overbed tables.
- Bedside tables.
- Food processing equipment.
- Toilet seats.
- Tap and door handles and grips.
- Light switches and other complex shapes.

During the COVID 19 pandemic MSSA has supplied wire for the manufacture of electrolysis cells designed to assist in controlling the virus.

6 Minute Challenge



Three members of the team at Metal Spray Supplies Australia have accepted the 6 minute challenge to help raise awareness on the importance of mental health. Every 6 minutes someone attempts to take their own life and that is not okay! Everyone deserves help, no matter what. Take on the challenge and help make a difference in people's lives!

[Accept the Challenge!](#)

NEW Range of Masking Tapes

MSSA are now selling Green Belting masking tapes which include Aluminium Foil tapes, Silicon coated Fibreglass tapes, Fibreglass tapes and Multi-Layer tapes.

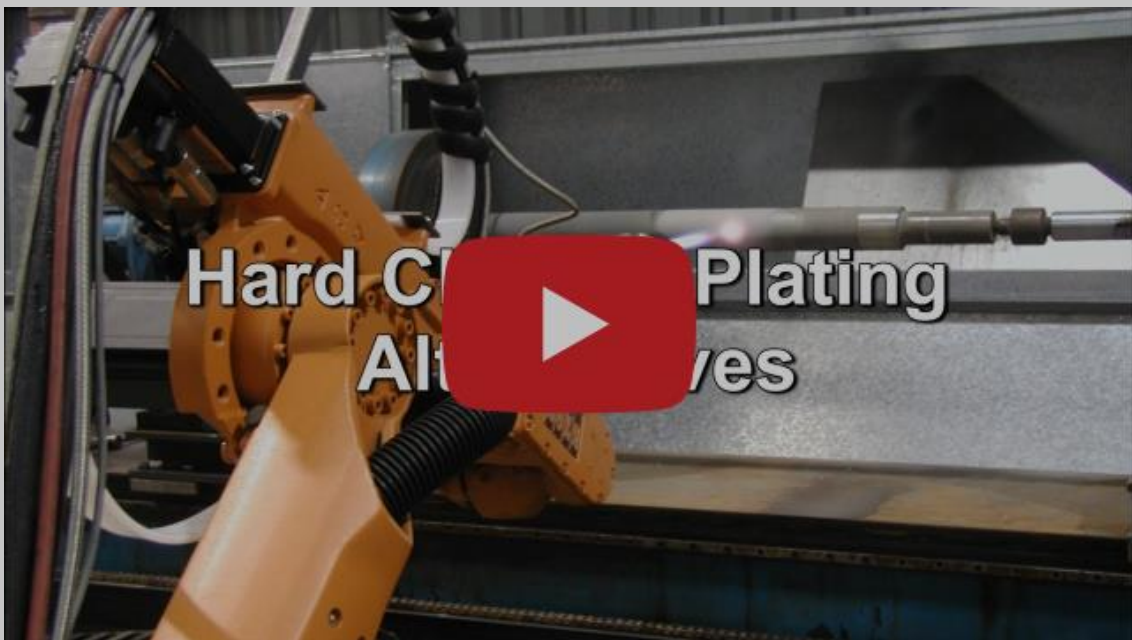
Each tape is designed to suit the Metal Spray process being used. Contact our [Sales department](#) and let us know what process you are using and we will assist you in choosing the most suitable tape for your application.

For more information on the Green Belting range, [Click Here](#).

NEW Hard Chrome Plating Alternatives Video

Our latest video explores the process of Hard Chrome Plating, showing the benefits of Metal Spray over the traditional Hard Chrome process. Metal spray offers 3 alternative 'Chemical Free' processes, the video explores each Metal Spray process and the particular applications they are favoured for.

Check it out by clicking on the video below!



DID YOU KNOW? Metal Spraying provides 3 different methods that are used as an environmentally friendly alternative to Hard Chrome Plating.

[What is Metal Spray?](#)

[Other Industry Applications](#)

[Equipment](#)

[Consumables](#)

Feature Article in the Next Issue of NewsWire:
ENGINEERING PRODUCTION

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