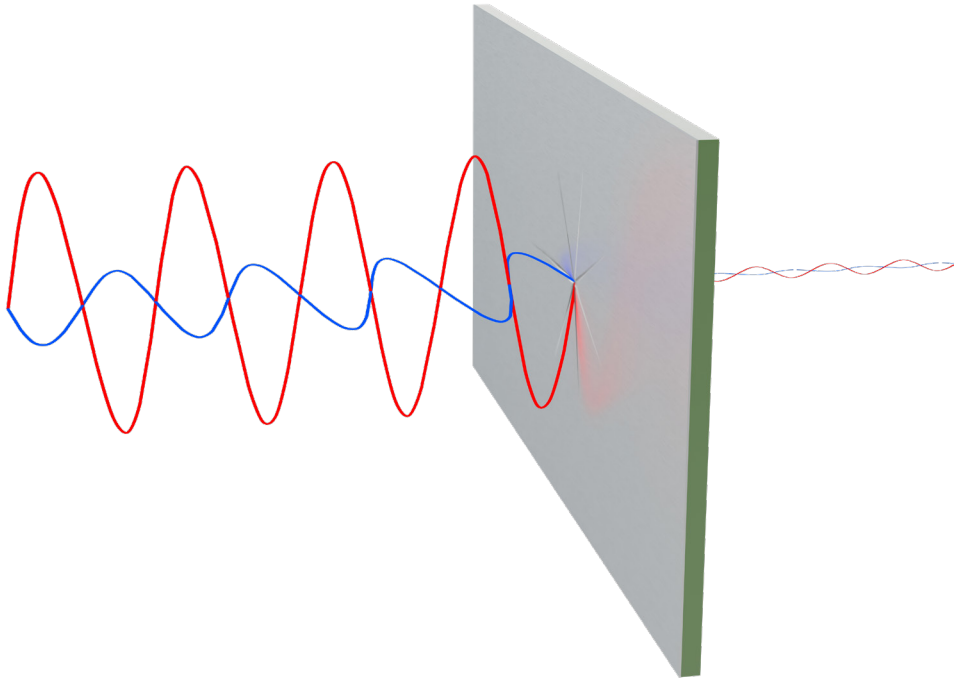
Conductive Paints



Applications

- EMI / RFI Shielding
- Galvanic corrosion resistance
- ESD Protection
- Grounding
- Electroplating plastics

Industries

- Aerospace
- Communications
- Consumer Electronics
- Defence
- Electric Vehicles
- Instrumentation
- Medical equipment
- Research

Conductive Acrylic Paint - These 1-part coatings cure quickly and are most commonly used to provide EMI/RFI shielding to plastic electronic enclosures.

Conductive Epoxy Paint - These 2-part coatings offer superior adhesion, durability, and chemicals resistance. They are suitable for use in harsh environments.

Water Based Conductive Shielding Paint - These 1-part coatings are non-flammable, low VOC, and low odor. They are suitable for architectural applications, electronic enclosures, and musical instrument.

Packaging and Board Level Shielding - These coatings are suitable for high frequency EMI board and package level applications.

ESD Safe Coating - These are durable coatings that eliminate electrostatic discharge on a wide variety of substrates.

Conductive Paints

Binder Systems

Acrylic is the most used binder for plastic enclosures. It cures at room temperature, applies easily, and creates a durable coating.

Water based urethane is the only choice for architectural applications because of its low VOC content. It is non-flammable, has no noxious vapors, and is not a dangerous good when shipped by air.

Solvent based urethane creates a flexible coating and applies very thin. It adheres strongly to most substrates including plastics, metals, and glass.

Epoxy is used when extreme durability and strong chemical resistance is needed. It offers mar and scratch resistance, very strong adhesion, extreme abrasion and impact resistance. Epoxy-based paints are the best choice for coating metals and concrete.

Conductive Fillers

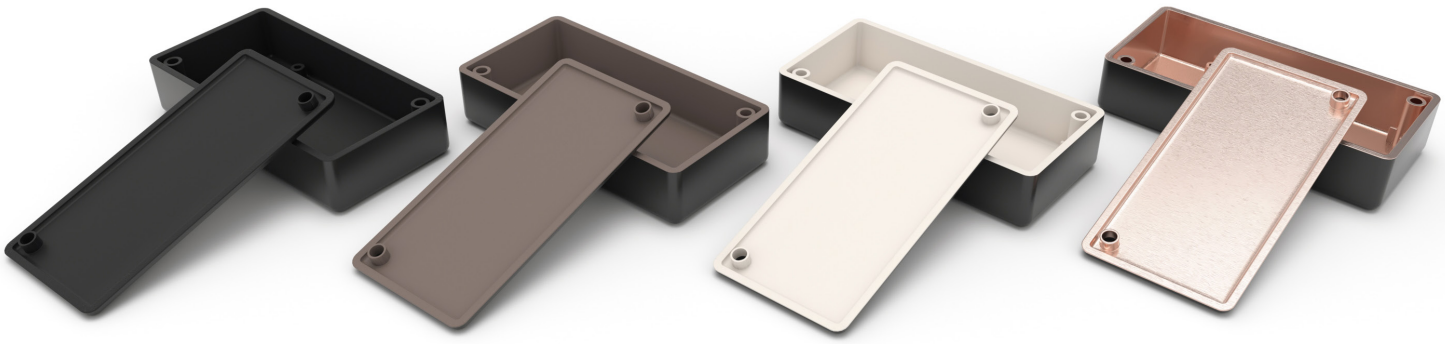
Carbon is best for low frequency shielding, musical instruments, and grounding.

Nickel is suitable for most device-level shielding applications. It provides modest shielding, durability, and excellent corrosion resistance.

Silver offers the best shielding and corrosion resistance. It is also the best choice for board-level and package level shielding. It can be applied very thin.

Silver-coated copper provides superior shielding performance at a lower cost compared to silver.

	EMI/RFI SHIELDING PAINTS					ESD COATINGS
	Carbon	Graphite	Nickel	Silver	Silver-coated Copper	
Solvent based Acrylic	838AR	839	841AR	842AR, 842ARL	843AR	844AR
Water based Urethane	—	—	841WBU	842WBU	843WBU	—
Solvent based Urethane	—	—	—	842UR	—	—
Solvent based Epoxy	—	—	841ER	842ER	843ER	—

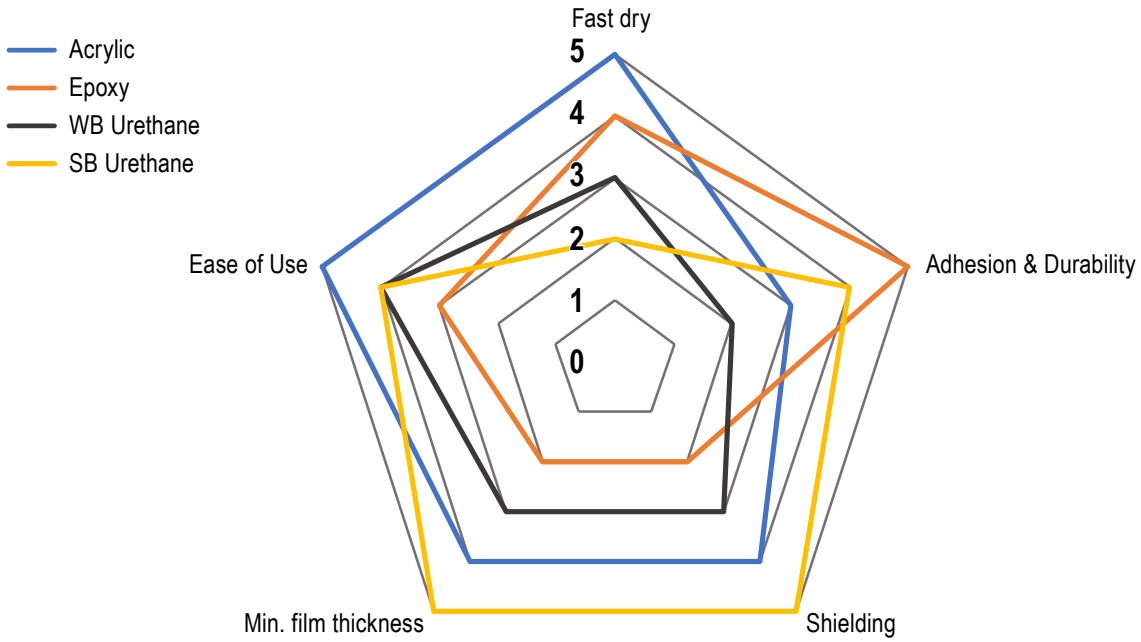


MG Chemicals 1210 Corporate Drive, Burlington, Ontario, Canada L7L 5R6
North America: +(1)800-340-0772 **International:** +(1) 905-331-1396 **Europe:** +(44)1663 362888

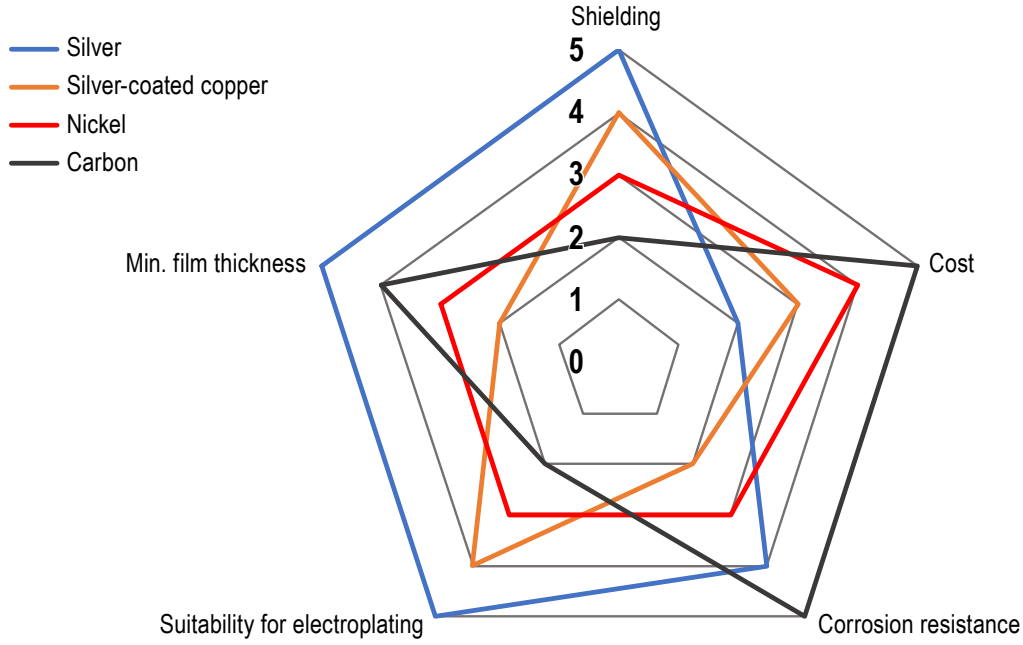
08 April 2025 - Version 2.0

Conductive Paints

The general properties of conductive paints vary by their binder system and conductive fillers. Therefore, it is important to choose the right combination your specific application. The below graphs qualitatively compare the performance of conductive paints based on their binder and conductive filler systems.



Graph 1. Performance comparison of conductive paints based on the binder type. 5 represents the highest performance and 1 represents the lowest performance.



Graph 2. Performance comparison of conductive paints based the filler type. 5 represents the highest performance and 1 represents the lowest performance.