

# METALGUARD® E-5500

Low-Conductivity Fluid  $\leq 5 \mu\text{S}/\text{cm}$

Ready-to-Use

## Overview

WEBA Technology offers finished low-conductivity fluids for customers who do not have access to low-conductivity deionized water and/or ethylene glycol. Glycol and glycol/water-based low-conductivity coolants not only provide efficient heat transfer and insulation they can also provide freeze protection depending on the dilution of the solution.

In the computer data storage center market, an emphasis has been placed on converting mineral-oil-based immersion fluids that insulate and cool the computer chips directly, to more heat transfer efficient, and low-conductivity inhibited glycol/water fluids. The growth in AI (artificial intelligence) and cryptocurrency mining, both requiring massive data storage and memory space, have dramatically increased the need for high-speed data processing computer servers for information storage and data calculation. METALGUARD® E-5500 can be used in these applications.

Additionally, E-5500 fluid meets ASTM D8565 which is the specification for hydrogen fuel cell coolant which has a requirement of finished coolant with  $\leq 5 \mu\text{S}/\text{cm}$  (microsiemens/cm) in the finished product. E-5500 fluid maintains a stable, low-conductivity over long periods of time through its proprietary formulation of non-ionic corrosion inhibitors. This mechanism is essential to maintain safe operation of battery-powered vehicles in which the coolant directly contacts the battery parts, and other equipment and systems that require low-conductivity fluids.

Inhibited METALGUARD® E-5500 fluid protects aluminum, copper, brass, stainless steel, and titanium, It is compatible with most elastomers and other materials including silicon rubber, Viton, EPDM and graphite. It is not compatible with carbon steel, cast iron, or zinc/galvanized steel.

The E-5500 fluid is ready-to-use. Any non-tested deionized water for top-off, or even standard virgin glycol, may increase conductivity and reduce corrosion protection. Conventional antifreeze/coolant should never be added to E-5500, and low-conductivity coolant should never be used in internal combustion engine cooling systems. Additionally, no dye or colorant, of any type, should be added to E-5500 fluid. Even a small quantity of such ionic solutions will cause a dramatic increase in the fluid's electrical conductivity.



## Features & Benefits

- $\leq 5$  microsiemens/cm
- Ready-to-use
- Contains non-ionic corrosion inhibitors
- Fluid maintains a stable, low-conductivity



## Specifications

- Meets ASTM D8566 for electric vehicles
- Meets ASTM D8565 for fuel cell vehicles



## Quality Control & Technical Support

WEBA's products must pass rigorous quality control tests. They are tested for conformance with product specifications and industry standards. Certificates of analysis are provided with every shipment. WEBA Technology can help with many technical questions relating to the finished fluids our additives create, types of glycol and other bases, and assist with issues on products containing our inhibitor packages.



## Industry Applications

- Immersion cooling of computer components in data storage centers for computers and AI
- Direct battery cooling in electric vehicles
- Large transformer cooling systems
- Cooling of fuel cells in vehicles and other equipment powered by them
- Electrical welding torches
- Certain optical and medical devices



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## Product Specifications

### E-5500 (in water base)

Visual	No color
Specific Gravity; 21.1°C (70°F)	1.000 - 1.010
pH	5.7 - 6.3
Freeze Point	-0°C (32°F)
Electrical Conductivity	≤5 microsiemens/cm



## Product Specifications

### E-5550-EG (50% ethylene glycol base), by volume

Visual	No color
Specific Gravity; 21.1°C (70°F)	1.050 - 1.060
pH	5.7 - 6.3
Freeze Point	-37°C (-34°F)
Electrical Conductivity	≤5 microsiemens/cm



## Product Specifications

### E-5550-PG (50% propylene glycol base), by volume

Visual	No color
Specific Gravity; 21.1°C (70°F)	1.030 - 1.040
pH	5.7 - 6.3
Freeze Point	-34°C (-29°F)
Electrical Conductivity	≤5 microsiemens/cm

## Product Specifications

### E-5535-EG (35% ethylene glycol base), by volume

Visual	No color
Specific Gravity; 21.1°C (70°F)	1.030 - 1.040
pH	5.7 - 6.3
Freeze Point	-19°C (-3°F)
Electrical Conductivity	≤5 microsiemens/cm

## Product Specifications

### E-5535-PG (35% propylene glycol base), by volume

Visual	No color
Specific Gravity; 21.1°C (70°F)	1.020 - 1.030
pH	5.7 - 6.3
Freeze Point	-17°C (1°F)
Electrical Conductivity	≤5 microsiemens/cm

The specifications listed in this bulletin are based on products produced with WEBA's additive packages, virgin glycol and deionized water. To confirm that your finished products meet the required industry specifications, WEBA recommends that you test your glycol and finished products at an accredited laboratory. WEBA will warrant our additive packages only if this procedure and the recommended blending and storage procedures are properly followed and documented. In addition, the glycol or other base fluid used with our additive systems should meet industry or ASTM standards unless specifically exempted in our literature.