

## Technical Data Sheet

Chemtools® Pty Ltd | Ph: 1300 738 250 (+61 2 9833 9866) | Unit 2, 14 – 16 Lee Holm Road ST MARYS NSW 2760  
Safety Data Sheets, product photos, and other information can be obtained by visiting [www.chemtools.com.au](http://www.chemtools.com.au)



# Thermalle™ CARBOVOLT Carbon Conductive Grease

PART NUMBER	AVAILABLE SIZE*
CT-TM007-05PT	5ml Syringe
CT-TM007-10PT	10ml Syringe
CT-TM007-50T	50g Tube
CT-TM007-250G	250g Tub
CT-TM007-1KG	1Kg Tub
CT-TM007-2.5KG	2.5Kg Tub

\*Available colours and/or sizes may change without notice.

### DESCRIPTION

Thermalle™ CARBOVOLT Carbon Conductive Grease is formulated with a carbon-based additive to provide excellent conductivity and lubrication. It is an economical low-cost mechanical and thermal conductor for irregular or pitted surfaces and loose or vibrating parts. CARBOVOLT will protect closed switches from corrosion, prevent the formation of oxides, sulphides, and other corroding deposits on copper and aluminium surfaces, improve the connection between worn contacts and non-moving mating surfaces, and reduce arcing hot spots.

CARBOVOLT relies on a proprietary carbon filler rather than traditional metallic particles for electrical conductivity. It is typically used as a ground and is particularly useful when trying to drain static electricity away from moving objects, from low micro-power electronics through to high voltage switchgear.

Non-hardening and non-melting with a high resistance to water washout, CARBOVOLT offers a board service temperature range with continuing lubrication, and low bleed and evaporation. It is ideal for ground connections, rotating connections, rotary switches, variable capacitors, roller inductors, roller bearings, slip rings, slide connectors, and potentiometers.

CARBOVOLT is commonly used in the electronics, automotive, and aerospace industries.

### APPLICATION

Using a zero-residue solvent such as Isopropyl Alcohol, clean and dry all surfaces to be lubricated with a lint-free cloth or brush.

Apply a thin, even layer of grease using a brush, spatula, syringe, or other appropriate applicator.

Clean up any excess grease or spillage with inert, absorbent material.

### TECHNICAL DATA

#### PHYSICAL PROPERTIES

Colour	Black
Odour	Odourless
Density @ 25°C (ASTM D1475)	1.05g/ml
Viscosity @ 25°C (IPCTM-65 Method 2.4.24.4)	3.86 Pa.s (Brookfield, Spindle RV S95, 10 RPM)
Corrosion Resistant	Yes
VOC (Volatile Organic Compound)	0%
Service Temperature	-40°C to +200°C
Shelf Life (-40°C to +40°C)	5 Years from date of manufacture

Note: This product may not perform to given specifications once shelf life has been exceeded

#### GREASE PROPERTIES

Evaporation Loss, 22hr @ 165oC (ASTM D2595)	2.6%
Oil Separation, 30hr @ 165oC (ASTM D6184)	0.4%
Dropping Point (ASTM D2265)	> 304°C

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Water Washout @ 38°C (ASTM D1264)	1.3%
Worked Penetration, 60 Strokes, ½ Scale (ASTM D1403)	269
Emcor Rust Test, Distilled Water (IP 220)	1

### ELECTRICAL PROPERTIES

Volume Resistivity @23°C +/- 2°C @3V (ASTM D257)	4.2 x 10 <sup>4</sup> ohm-cm
Electrical Conductivity @23°C @ 3V (ASTM D257)	2.4 x 10 <sup>9</sup> pS/m

Note: At higher voltages, the material becomes increasingly conductive, i.e. behaves as a semiconductor.

Surface Resistivity @23°C +/- 2°C @3V (ASTM D257)	1.6 x 10 <sup>5</sup> ohm
Copper Corrosion, 24 Hours @ 100°C (ASTM D4048)	2a

Dielectric Strength per SAE AS8660: ½ Inch Hemispherical electrodes, 500 volts/second rate of rise, 50% R.H. @ 10 mil gap

Run 1	Less than 0.10 kV
Run 2	Less than 0.10 kV
Run 3	Less than 0.10 kV
Run 4	Less than 0.10 kV
Run 5	Less than 0.10 kV
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Average	Less than 0.10 kV
Breakdown Voltage	Less than 10 volts/mil

Note: Material does not behave as a dielectric, rather it behaves as a semi-conductor. Trip occurred due to maximum milliamp draw. No spark observed.

### CHEMICAL PROPERTIES

Corrosion Resistance	Good
Chemical Resistance	Good
Oxidation Stability	Good

### FIRST AID & SAFETY PRECAUTIONS

**Always refer to Safety Data Sheet/s before use.** Use proper Personal Protection Equipment. Do not get in eyes, on skin, or on clothing. Use with adequate ventilation. Avoid breathing fumes. Keep away from heat, sparks, open flames, and hot surfaces. This product may produce adverse health conditions, ranging from minor skin irritation to serious systemic effects. It should not be used, stored, or transported until the handling precautions and recommendations as stated in the Safety Data Sheet/s for this product have been fully understood by all persons who will work with the material.

### STORAGE & TRANSPORT

**Refer to Safety Data Sheet/s for recommendations.** As a general precaution, keep containers tightly closed, protect from sunlight, and do not expose to temperatures exceeding 50°C. Store in a cool, dry place. Do not return any unused material to its original container. Containers should be secured and stored upright during transit.

### DISCLAIMER

Every effort has been made to ensure the information provided in this document is accurate at the date of publication. Chemtools® Pty Ltd expressly recommends that the user make his/her own assessment to determine the suitability of the product for its intended purpose prior to application. Chemtools® Pty Ltd shall not be responsible for loss, damage, or injury, resulting from the reliance upon, or failure to adhere to, any recommendations or information contained herein; nor from abnormal use of the material; nor from any hazard inherent in the nature of the material.