

Technical Data Sheet:

Dicronite® Dry Lubrication

PRODUCT DESCRIPTION

Dicronite® is a tungsten disulfide (WS_2), dry film lubricant coating. This extremely thin film coating provides friction and sliding wear reduction in various applications across numerous industries.

Dicronite® is suitable for demanding environments such as extreme temperatures, vacuum, precision tolerances, and many more.

APPLICATION PROCESS DESCRIPTION

Dicronite® is applied at one of many licensed coating facilities. After surface preparation, Dicronite® dry lubricant is impinged onto the substrate surface at high velocity. The coating process is conducted at ambient conditions. The material includes no binders or adhesives and requires no curing. Dicronite® can be re-applied to the same component repeatedly.

SUBSTRATES	All metals, most plastics, and some ceramics; may be applied on other coatings/platings
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APPEARANCE	Silver, blue gray, dark gray
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THICKNESS	0.5 micron (0.00002 inch) or less
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PERFORMANCE OVERVIEW

FRICITION REDUCTION	Systems with Dicronite® coated on smooth surfaces often range between 0.03 and 0.07 dynamic coefficient of friction, and 0.05 to 0.09 static coefficient of friction
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WEAR REDUCTION	Suitable for sliding wear reduction; not intended for reducing abrasive wear
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LOAD CAPACITY	Same as substrate, up to approximately 350,000 psi (2,415 MPa)
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THERMAL STABILITY	<p>Functions across high and low temperatures; withstands temperature changes</p> <ul style="list-style-type: none"> • up to approximately 538°C (1000°F) in air • up to approximately 1316°C (2400°F) in vacuum • down to cryogenic temperatures
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VACUUM STABILITY	<p>Very low outgassing; suitable spacecraft material per ASTM E595 guidelines</p> <ul style="list-style-type: none"> • TML < 1.0 %, CVCM < 0.1 %
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COMMON APPLICATIONS

Actuators	Fasteners	Rivets
Ball Screws	Gears	Rods
Bearings	Guides	Shafts
Bushings	Nuts	Slides
Chains	Plastic Molding Cavities	Splines
Cylinders	Pins	Sprockets
Couplings	Plates	Threads
Discs	Rails	Valves
Electrical Connectors	Rings	Washers

COATING PROPERTIES

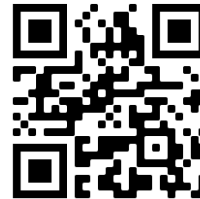
CHEMICAL STABILITY	Inert
TOXICITY	Non-toxic
MAGNETISM	Non-magnetic; won't impact substrate magnetism
CONDUCTIVITY	Will not significantly affect substrate conductivity (thermal or electrical)
CORROSION RESISTANCE	Provides only minimal corrosion inhibition

COMPATIBILITY

LUBRICANTS	Compatible with oils and greases
LIQUIDS	Compatible with fuels, hydraulic fluids, and many solvents
OXYGEN	Suitable for liquid and gaseous oxygen systems
RADIATION	Radiation stable; tested according to LEO and nuclear containment vessel radiation levels
BIOCOMPATIBILITY	Biocompatible per USP Class VI and select ISO-10993 testing

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Learn more online.

The information on this sheet is made available as a reference. No warranty is made with respect to performance under application conditions. Customers are advised to test the suitability of the coating for their application.