RILSAN®
FINE POWDERS

Rilsan® Fine Powder-based Coatings for Data Center Power & Cooling Infrastructure

Increasing power density is driving tighter component spacing and higher insulation risk. Data centers require coatings that maintain dielectric performance at low thickness to preserve thermal efficiency, while ensuring long-term reliability under heat, humidity, and handling. Rilsan® Polyamide 11 Fine Powders have a proven track record in coating applications, demonstrating their ability to withstand harsh conditions while delivering optimal performance.

Why Use Rilsan® Fine Powders in Data Centers?

THIN COATING = THERMAL ADVANTAGE

- → High dielectric strength enables thinner coatings for improved heat dissipation
- → Supports higher power density designs
- → Classified as a thermoplastic

MECHANICAL RELIABILITY

- → Excellent flexibility (passes ISO 6860 (*3.175 mm conical mandrel bend*) at over 250 µm)
- → Superior impact and wear resistance vs epoxy

Chemical Resistance

RILSAN® FINE POWDER-BASED COATINGS HAVE RESISTANCE TO:

- → **Cooling fluids:** water, glycols, hydrocarbon cooling fluids
- → **Water treatment:** sodium hydroxide, phosphates, chlorides
- → **Cleaning:** alcohols, detergents/ cleaning solutions, oils & greases
- → **Disinfection:** hydrogen peroxide, bleach (hypochlorite)

Corrosion Resistance

1 min grit blast followed by 10,000 h salt spray test (to model sand + seawater on seaside)

Highly corroded plate

Sand has induced damages, resulting in high corrosion

Very good abrasion + corrosion resistance

Rilsan® Fine Powder-based coating systems exhibit an outstanding anticorrosion performance. No blister, discoloration, rust is observed after 2000h Neutral Salt Spray Test, even on gritblasted panel.

Electrical Performance

- Dielectric **strength** up to 65 kV/mm (at ~125 µm)
- 5 kV insulation achievable at ~100 µm
- Coating thickness adjustable from ~100 µm to >1 mm depending on requirements
- **Stable** insulation at high humidity and up to 100°C
- UL94 V-0 **fire performance** *(tested on Rilsan® ESY Orange 7705 and Rilsan® T Orange 7706)*

Manufacturing & Cost Advantages

- **Thermoplastic** process (no curing reaction) simplifies processing
- Parts can be bent or machined after coating
- Low density (~1.1) enables **high coverage efficiency** (>8.2 m²/kg @100 µm)
- Adhesion to steel, aluminum, copper, nickel, and more
- **Easy masking** due to flexibility and low thickness capability

Relevant Data Center Applications

- Busbars and connectors
- Power distribution and switchgear
- Cooling plates and channels
- Energy storage systems (UPS, backup)
- Electrical components (coils, stators, rotors)

Induction Coil

Busbars

Cooling Plates

Application Processes

- Electrostatic spray
- Fluidized bed dipping
- Minicoat

Electrostatic Spray

Fluidized Bed Dipping

Minicoat

Sustainability

- 100% bio-based PA11 (castor-based)
- Our coating system grades are BPA and TGIC-free*

*Not intentionally added but not specifically measured (not part of product specification)

Talk to an Expert

Direct coating solution for electrical and thermal components in high-density environments. Available for sampling and coating trials. Scan the QR code to contact us today!

Headquarters: Arkema France
51, Esplanade du Général de Gaulle
92800 Puteaux - La Défense
France
T +33 (0)1 49 00 80 80

Headquarters: Arkema Inc.
155 King of Prussia Rd
Radnor, PA 19087
United States of America
+1 (610) 205-7000

ADV#202606-25 – Design : JC, Images: Arkema, Adobe Stock

Rilsan® Fine Powder is a registered trademark of Arkema.
© 2026 Arkema Inc. All rights reserved
Disclaimer - Please consult Arkema's disclaimer regarding the use of Arkema's products on https://www.arkema.com/global/en/products/product-safety/disclaimer/

Arkema France, a French société anonyme registered at the Trade and Companies Register of Nanterre Under the number 319 632 790

hpp.arkema.com