

Biobased polyamide fine powders

AUTOMOTIVE



WATER

DURABLE
BY NATURE



METAL COATING

COMPOSITES



LASER SINTERING





Developed over sixty years ago from biobased sources, Rilsan® Fine Powders are thermoplastic polyamides first used as corrosion-resistant powder coatings for metal. Since then, Rilsan® PA11 powders have met increasingly stringent industrial requirements in a variety of applications. Today, these exceptional properties have allowed Rilsan® Fine Powders to expand into innovative technologies like composites and laser sintering.

DURABLE BY NATURE



Rilsan® polyamide resin is produced from castor oil obtained from the widely cultivated *Ricinus communis*. Castor oil is 100% vegetable, biodegradable, natural, non-toxic and renewable. Rilsan® Fine Powder is thus a thermoplastic not directly impacted by variations in crude oil prices. Moreover, Rilsan® Fine Powder is environmentally sound. Rilsan® Fine Powder is the right product for customers in search of eco-design. Rilsan® polyamide resins require less non-renewable energy than most performance polymers and offer a responsible choice for the environmentally aware.

MAIN BENEFITS OF RILSAN® FINE POWDERS INCLUDE

- Outstanding flexibility
- Excellent impact resistance
- Resistance to a wide variety of chemicals
- Wide service temperature range
- Low density
- Low moisture pick up (high dimensional stability)
- Unrivalled wear resistance
- Proprietary micronisation process producing a wide diversity of particle size distribution and formulations.

A RESPONSIBLE CHOICE
FOR THE
ENVIRONMENTALLY
AWARE



RILSAN® FINE POWDERS ARE CONSTANTLY EVOLVING AND DEVELOPING TO MEET YOUR NEEDS. OUR PROPRIETARY MICRONISATION PROCESS CAN PRODUCE A WIDE RANGE OF UNIFORM PARTICLE SIZES, OFFERING A POWDER MATCHED TO YOUR PROCESSING AND PERFORMANCE REQUIREMENTS.

METAL COATING

There is a Rilsan® Fine Powder for every standard powder coating method in use today. A variety of colours is available, produced by either the dry blend or the mass coloration process. The mass color process provides a uniform finish color and superior UV stability.

Whatever the coating method used, careful surface preparation and proper primer application are necessary to achieve optimum performance.

RILSAN® FINE POWDERS T AND FB

T and FB grades have an average particle size around 100 microns. They are designed for the fluidized bed dip coating process. A desirable coating thickness between 250 and 500 µm can be achieved.

RILSAN® FINE POWDERS ES AND ESY

These polyamide powders have an average particle size around 30 microns and are designed for the electrostatic spraying process. A desirable coating thickness between 80 and 150 µm can be achieved.



RILSAN® FINE POWDERS MC

MC grades have an average particle size around 50 microns. They are specially designed for coating small items using the minicoat/maxicoat process, originally developed by Arkema to allow very high productivity.

RECOMMENDED PRIMERS

High performance primers are marketed under the Primgreen® (water-borne, low VOC) and Rilprim® (solvent-based) brands. These primers have been specially developed for compatibility with Rilsan® Fine Powders. Across a range of processing temperatures, these primers provide Rilsan® PA11 coatings optimum anticorrosion protection on a variety of metal substrates.

OTHERS

RANGE OF POWDERS

RILSAN® FINE POWDERS D

These polyamide powders are used as additives in paint formulations. Rilsan® D powders provide excellent scratch and abrasion resistance and a desired structural effect in a wide range of liquid paints, both water-borne and solvent-borne.

RILSAN® INVENT

These powders are specially designed for laser sintering processes, offering unique mechanical properties for high performance applications. The product range includes mass coloured black powder for excellent colour finish.

ARKEMA'S GLOBAL COMMERCIAL AND TECHNICAL SERVICE

Rilsan® Fine Powders are backed by a global and integrated organization for supply chain, marketing, technical support and development.

This global team will assist you at every stage in your use of Rilsan® Fine Powders, from design and industrial development through market launch and supply. Our technical centres in France, China, Japan and the US provide you with first class technical assistance wherever you are. Call on our technical support teams for high-tech solutions that ensure the economic success of your project.

PACKAGING

Rilsan® Fine Powders are supplied in 20 or 25 kg sealed bags or octabins. The bags consist of a multilayer Kraft paper/PE, which ensures mechanical resistance, efficient palletization, and an excellent moisture barrier. Every Rilsan® Fine Powders bag carries appropriate labels with all essential data for traceability.



ENVIRONMENTAL IMPACT

- Rilsan® Fine Powders offer many positive environmental features in keeping with Arkema's global initiatives on sustainable development.
- Produced from castor oil, Rilsan® Fine Powders are high performance bio-sourced materials. Furthermore, polyamide 11 is a polymer made of 100% renewable organic carbon. The necessary additives for its formulation represent an insignificant part of the finished polymer.
Castor oil plant cultivation has been supported by the Arkema group for over 60 years in close collaboration with growers, providing renewable and environmentally sustainable resources. The cultivated castor oil plant does not interfere with the food chain, is not a GMO, uses very few pesticides, grows in poor soil in semi-arid areas and requires very little water.



Through ongoing purchases of castor oil on the world markets, Arkema contributes to the economic development of several regions, including South America, India, South-East Asia and China.

- Rilsan® Fine Powders do not release any volatile organic compounds and are free of heavy metal pigments, bisphenol A, phthalates, halogens, isocyanates and curing agents.
- The Rilsan® Fine Powders range includes grades that are compliant with regulations for food and drinking water contact.

SUCCESSFUL RESULTS IN A WIDE VARIETY OF APPLICATIONS

METAL COATING

Combining beauty and function, Rilsan® coatings offer a solution for the most demanding applications. The Rilsan® brand has become the reference for industries around the world looking for the ultimate solution in metal protection.



AUTOMOTIVE AND TRANSPORTATION

SPLINE SHAFTS, SLIDING DOOR AND SEAT RAILS, SPRINGS, BRACKETS, CLIPS AND SAFETY BELT FASTENERS



- Exceptional abrasion resistance
- Noise and vibration dampening
- Stone chipping resistance at low temperatures

FLUID TRANSFER

PIPES AND FITTINGS, VALVES, FLANGES, COUPLINGS, FLOW METERS, INJECTION AND PRODUCTION TUBING



- Anti-corrosion properties
- Compliance with the most demanding specifications for drinking water contact
- High resistance to hydrocarbons and water treatment chemicals

BUILDING AND ELECTRICAL

OUTDOOR FURNITURE, LAMP POSTS, ELECTRICAL CABINETS AND CLIPS, BOLTS AND SCREWS, ETC.



- Long term resistance to extreme maritime environments
- Excellent outdoor ageing properties
- Graffiti resistance and fire resistance
- Electrical insulation

TEXTILE / PRINTING / FOOD / HEALTHCARE

UNDERGARMENT WIRES AND ADJUSTORS, PRINTING AND TEXTILE ROLLERS, PHARMACEUTICAL AND FOOD PROCESSING EQUIPMENT, HOSPITAL BEDS, WHEELCHAIRS, AND AMBULANCE STRETCHERS, ETC.



- Unique warm-to-the-touch, smooth surface finish with low friction
- Easy to clean, high resistance to chemicals, inks, detergents and heat
- Suitable for dyeing
- Machinable
- Limits bacterial growth

WIRE ARTICLES

DISHWASHER BASKETS, SHOPPING CARTS, SHELVING, VARIOUS CLEANING TROLLEYS



- Very easy processing
- Excellent resistance to alkaline and chlorinated hot water
- Bendable
- Combines the best of thermoplastic impact resistance and thermoset hardness

COMPOSITES



- Toughening agent and thermoplastic resin for optimal composite fibre impregnation resulting in outstanding mechanical properties

OTHER APPLICATIONS

ADDITIVE MANUFACTURING



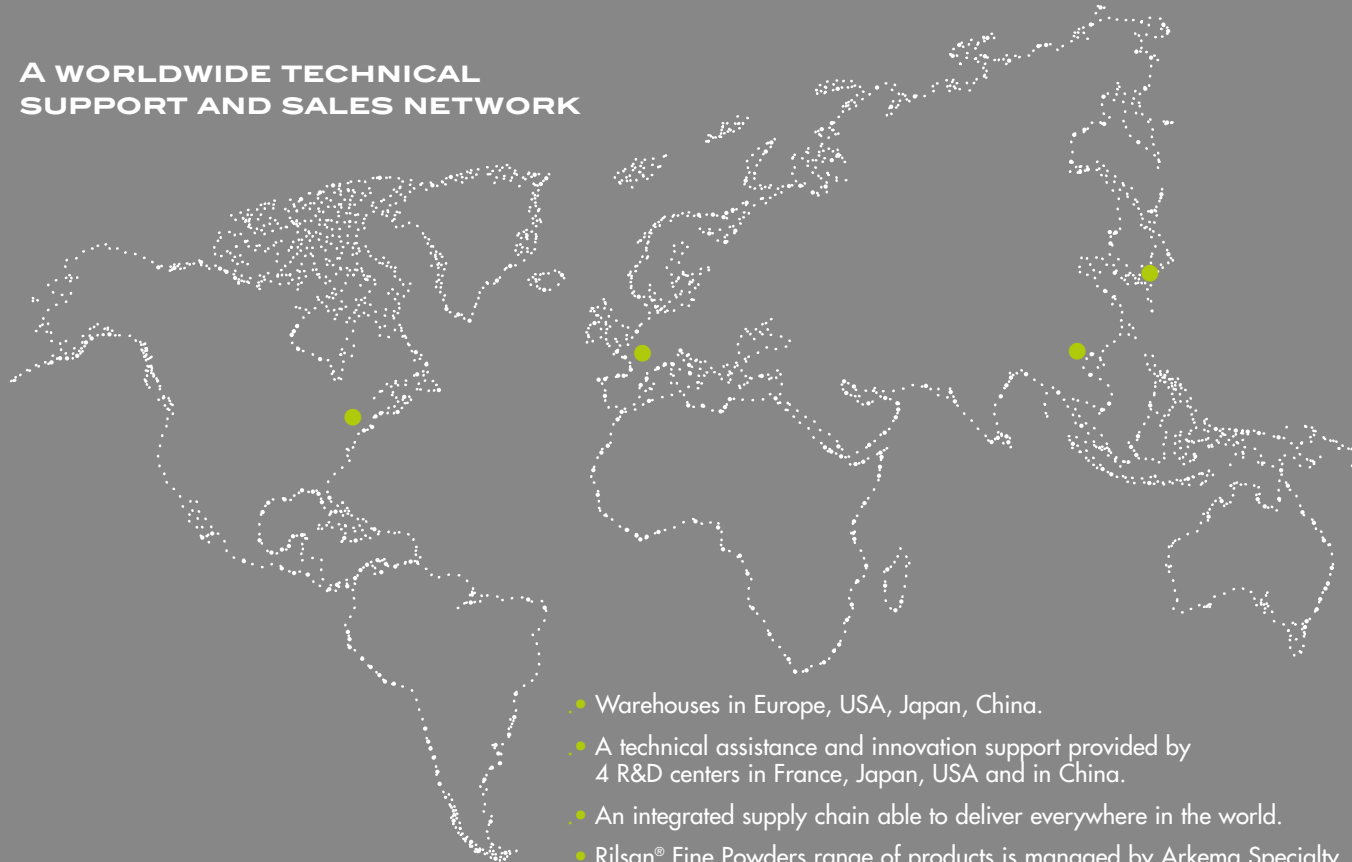
- Specific grades of powder designed for laser sintering to produce 3D parts with exceptional mechanical properties

COATINGS ADDITIVES



- Surface enhancement and texturing for industrial coatings (Cf. *Orgasol®/Rilsan® coatings additives* brochure)

A WORLDWIDE TECHNICAL SUPPORT AND SALES NETWORK



- Warehouses in Europe, USA, Japan, China.
- A technical assistance and innovation support provided by 4 R&D centers in France, Japan, USA and in China.
- An integrated supply chain able to deliver everywhere in the world.
- Rilsan® Fine Powders range of products is managed by Arkema Specialty Polyamides business unit or its representatives in the following countries.

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