ARKEMA

RILSAMID®

Rilsamid® Polyamide 12

“Resiliency meets Versatility”

Rilsamid® Polyamide 12 (Nylon 12) for a variety of applications

Rilsamid® Polyamide 12 (PA12), or Nylon 12, is a high-performance thermoplastic polymer with a unique chemical structure. Rilsamid® PA12 is made from a 12-carbon chain monomer, typically derived from laurolactam. This long chain provides it with unique flexibility and low moisture absorption compared to shorter-chain polyamides like PA6 or PA66. Rilsamid® PA12 is a **versatile** high-performance polymer, commonly known for its resilience with properties such as chemical resistance, durability, and strength. In addition to Rilsamid® PA12, Arkema also supplies Orgasol® PA12 powders, Rilsan® PA11, Pebax® TPE, and other high-performance nylon materials.

A GLOBAL FOOTPRINT LEADING THE WAY IN LONG CHAIN POLYAMIDES

Arkema has an **extensive network** of teams and facilities worldwide to provide service and supply. With manufacturing, R&D centers, technical service, and even a dedicated recycling facility, Arkema can be a **resource to customers globally.**

R&D Center

Manufacturing Facility – Polyamides

Agiplast Recycling Facility

Product Capabilities

“Why is PA12 so **resilient** and **versatile?**”

- **Ease of Processing:** Rilsamid® PA12 processes efficiently on standard plastic processing equipment used for extrusion and injection molding.
- **Superior Noise and Vibration Dampening:** Excellent dampening qualities make it a top choice for applications requiring minimal vibration.
- **Outstanding Impact Resistance and Flexibility:** Especially valuable in low-temperature applications, Rilsamid® PA12 withstands significant impact without cracking, while retaining flexibility.
- **Exceptional Abrasion Resistance:** Durable under mechanical stress, Rilsamid® PA12 is a reliable material for parts exposed to friction and wear.

“Why **upgrade** from short chain polyamides like PA6?”

- **Moisture Absorption:** Rilsamid® PA12 has significantly lower moisture uptake compared to PA6, resulting in greater dimensional stability and more consistent mechanical properties in humid environments. This makes Rilsamid® PA12 preferable for outdoor or high-humidity applications such as fuel lines and pneumatic systems.
- **Chemical Resistance:** Rilsamid® PA12 is superior to PA6 in terms of chemical resistance, including oils, fuels, and hydraulic fluids, making it a better choice for demanding environments where exposure to harsh substances is a concern.
- **Impact Resistance:** Rilsamid® PA12 provides better impact resistance than PA6, making it more suitable for applications requiring toughness and resistance to sudden forces, such as protective housings and automotive components.
- **Lightweight:** Rilsamid® PA12 has a lower density compared to PA6, which results in lighter components without compromising strength. This advantage is particularly beneficial in weight-sensitive applications such as the aerospace and automotive industries.
- **Termite Resistance:** Rilsamid® PA12 exhibits natural resistance to termites, making it an ideal choice for cable sheathing and other applications in environments prone to pest infestations, whereas PA6 does not offer the same level of protection.

Markets

TRANSPORTATION INDUSTRY APPLICATIONS

- **Air brake tubing for trucks:** With decades of proven performance, Rilsamid® PA12 ensures durability on the road.
- **Automotive connectors, fittings & injection molded components:** Rilsamid® PA12 materials are designed to comply with many automotive and industry standards worldwide.
- **Vehicle emission control systems:** Rilsamid® PA12 materials can provide reliable performance in emission control applications.
- **Vehicle fluid & fuel management systems:** Systems designed using Rilsamid® PA12 can provide chemical resistance to various fluids.

WIRES & CABLES

- **Protection & insulation:** Rilsamid® PA12's insulative properties and resistance to the environment make it ideal for cable protection in harsh conditions.
- **Termite Resistance:** Termites and other rodents are no match for Rilsamid® PA12's tough exterior

Markets

OIL & GAS

- **Resistance:** Rilsamid® PA12 provides abrasion resistance and chemical resistance in hydrocarbon applications.
- **Pipes & Cables:** Rilsamid® PA12 is used in reinforced thermplastic pipe, cables, and other areas requiring durable materials.

INDUSTRIAL APPLICATIONS

- **General tubing & hose:** Rilsamid® PA12 is ideal for applications requiring flexibility and chemical resistance.
- **Bearings & gears:** Rilsamid® PA12 offers high resistance to friction, wear, and impact resistance to produce low maintenance, wear and abrasion-resistant parts.

SPORTS

- **Footwear:** Rilsamid® PA12 brings lightweight and durable performance for plates, shanks, and a variety of midsole and outsole components.
- **Equipment:** Rilsamid® PA12 enables tough and wear-resistant performance for many sporting goods, protective equipment, and consumer products.

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