

Polyamide in Electronics Protection Devices (EPD) Market by Product (PA 6, PA 66, PA 4,6, PA 612, and Others), Application (MCB, MCCB, Relays, Contactors, Terminal Blocks), and Region 2023-2028

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Report description:

Market Overview:

The global polyamide in electronics protection devices (EPD) market size reached US\$ 363.68 Million in 2022. Looking forward, IMARC Group expects the market to reach US\$ 461.51 Million by 2028, exhibiting a growth rate (CAGR) of 3.80% during 2023-2028. The rapid expansion of the electrical and electronics industry, increasing product application in residential and commercial construction activities, and utilization of high-performance polyamide 4,6 (PA 4,6) to produce advanced MCCBs represent some of the key factors driving the market.

Polyamide is a synthetic polymer used in the production of electronic protection devices (EPD) due to its high strength, durability, and electrical insulation. It is widely used in circuit board encapsulation, contactors, cable and wire insulation, battery pack covers, miniature circuit breakers (MCBs), molded case circuit breakers (MCCBs), relays, and terminal blocks. As compared to other polymers in EPD, polyamide exhibits better dimensional stability, high thermal and chemical resistance, and excellent friction and wear properties. It is also a lightweight, easy-to-process, eco-friendly, and recyclable material that increases equipment safety, ensures reliable performance, and provides protection from extreme temperatures, vibrations, shocks, and humidity. As a result, polyamide in EPD finds extensive applications across the automotive, electrical and electronics, construction, consumer electronics, aerospace, defense, transportation, healthcare, power generation, and telecommunication industries.

Polyamide in Electronics Protection Devices (EPD) Market Trends:

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The rapid expansion of the electrical and electronics industry is one of the primary factors propelling the market growth. Polyamide-based EPDs, such as cases, conduit systems, terminal blocks, enclosures, and covers, are widely used to protect printed circuit boards (PCBs), batteries, cables, and other electronic components. In addition to this, the widespread product utilization in the consumer electronics industry to protect smartphones, tablets, laptops, gaming consoles, wearables, and audio systems is acting as another growth-inducing factor. Furthermore, the increasing product application in residential and commercial construction activities to prevent damages to electrical junction boxes, wiring, lighting system, and heating, ventilation, and air conditioning (HVAC) equipment is providing an impetus to the market growth. Additionally, the utilization of high-performance polyamide 4,6 (PA-4,6) to produce advanced MCCBs that can withstand high thermo-mechanical and electrical stress, provide flame retardant properties, and preserve the integrity of electrical components is positively influencing the market growth. Apart from this, the rising product adoption in the automotive industry to protect wiring harnesses, onboard electronics, connectors, motors, and sensors from overloads, short circuits, and other electrical faults is providing a thrust to the market growth. Moreover, the implementation of various government initiatives to promote the utilization of EPDs across industries to maintain safety standards and protect workers is facilitating the market growth. Other factors, including rising demand for lightweight and durable EPDs, extensive research and development (R&D) activities, increasing adoption of automation and robotics in industries, and the growing demand for electric vehicles (EVs), are anticipated to drive the market growth.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global polyamide in electronics protection devices (EPD) market, along with forecasts at the global, regional, and country levels from 2023-2028. Our report has categorized the market based on product and application.

Product Insights:

- PA 6
- PA 66
- PA 4,6
- PA 612
- Others
-

The report has provided a detailed breakup and analysis of the polyamide in electronics protection devices (EPD) market based on the product. This includes PA 6, PA 66, PA 4,6, PA 612, and others. According to the report, PA 6 represented the largest segment.

Application Insights:

- MCB
- MCCB
- Relays
- Contactors
- Terminal Blocks
-

A detailed breakup and analysis of the polyamide in electronics protection devices (EPD) market based on the application has also been provided in the report. This includes MCB, MCCB, relays, contactors, and terminal blocks. According to the report, MCB accounted for the largest market share.

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Regional Insights:

North America

United States

Canada

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

The report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, Asia Pacific was the largest market for polyamide in electronics protection devices (EPD). Some of the factors driving the Asia Pacific polyamide in electronics protection devices (EPD) market included rising safety concerns, the implementation of various government initiatives, and rapid technological advancements.

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Competitive Landscape:

The report has also provided a comprehensive analysis of the competitive landscape in the global polyamide in electronics protection devices (EPD) market. Competitive analysis such as market structure, market share by key players, player positioning, top winning strategies, competitive dashboard, and company evaluation quadrant has been covered in the report. Also, detailed profiles of all major companies have been provided. Some of the companies covered include Advansix Inc., Ascend Performance Materials LLC, BASF SE, Koninklijke DSM N.V., DuPont de Nemours Inc, EMS-Chemie Holding AG, Huntsman Corporation, Lanxess AG, Nilit Ltd, UBE Corporation, etc. Kindly note that this only represents a partial list of companies, and the complete list has been provided in the report.

Key Questions Answered in This Report:

- How has the global polyamide in electronics protection devices (EPD) market performed so far, and how will it perform in the coming years?
- What are the drivers, restraints, and opportunities in the global polyamide in electronics protection devices (EPD) market?
- What is the impact of each driver, restraint, and opportunity on the global polyamide in electronics protection devices (EPD) market?
- What are the key regional markets?
- Which countries represent the most attractive polyamide in electronics protection devices (EPD) market?
- What is the breakup of the market based on the product?
- Which is the most attractive product in the polyamide in electronics protection devices (EPD) market?
- What is the breakup of the market based on the application?
- Which is the most attractive application in the polyamide in electronics protection devices (EPD) market?
- What is the competitive structure of the global polyamide in electronics protection devices (EPD) market?
- Who are the key players/companies in the global polyamide in electronics protection devices (EPD) market?

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