



**MIROAD RUBBER**

**YOUR SAFETY PARTNER**

PRODUCT CATALOGUE

# About **MIROAD**

Miroad Rubber Industries Sdn Bhd is a leading global manufacturer and supplier of Safety Rubber Flooring, based in Malaysia. Our company has gained recognition for its exceptional product quality, excellent service, and high customer satisfaction. We started our journey by supplying raw materials to one of the largest rubber flooring manufacturers in Korea. Witnessing a shortage in the Korean market, our founders initiated a technology transfer in 1998 to establish our own rubber tiles production, giving birth to Miroad Rubber Industries.

In 2007, we completed another technology transfer from Korea, enabling us to produce high-quality EPDM in Malaysia and become a pioneer in the field. Since then, we have focused on in-house manufacturing of top-notch EPDM and other safety rubber floor products. Our commitment to continuous improvement has allowed us to expand our product variety, enhance manufacturing capacity, and maintain our position as a global supplier and manufacturer. Committed to environmental sustainability, Miroad also exemplifies its dedication by transforming waste rubber into a diverse range of eco-friendly products for various applications. Our waste management systems efficiently recycle rubber materials, producing reclaimed rubber products that find use across industries, from construction to automotive components.

As of 2023, Miroad Rubber Industries operates six manufacturing plants spread across Malaysia, covering a total area of over 1,000,000 square feet. With an impressive EPDM production output of over 2,000 tonnes per month, we are one of the largest manufacturers of rubber flooring products worldwide. Additionally, we are the designated OEM partner for numerous major suppliers around the globe, reinforcing our reputation as a reliable and innovative company in the industry. Currently, we are also in the process of constructing our seventh plant, further enhancing our capabilities and reach.



# EPDM Granules

Made of selected high grade rubber materials, Miroad EPDM Granules are available in a wide range of vibrant colors to allow flexible and creative design for rubber wet pour surfacing. Following stringent manufacturing processes and quality standards, our EPDM Granules are produced to fulfill standard quality parameters that ensure a hassle-free installation process for the installers and excellent flooring performance for the end users.

## PRODUCT FEATURES & BENEFITS



Wide Range of 21 Vibrant Colors for Flexible and Innovative Design



Peroxide Curing for Exceptional Color Stability



Highly Advanced Granulating Technology for Variable Granule Sizes



Standard-Compliant Hardness for Superlative Impact Absorption



Non-Toxic and Environmentally Friendly Virgin Materials



Improved Sieving Technology for Consistent and Accurate Granules Size



## GENERAL PRODUCT INFORMATION

Hardness	60 - 65 Shore A
Polymer Content	22 ± 2 %
Tensile Strength	≥ 6.0 MPa
Elongation at Break	≥ 600 %
Granules Size	0.5 - 1.5   1.0 - 4.0 mm
Flammability	Non-Flammable
Curing Method	Peroxide-Curing
Vulcanization	Hot Vulcanization

## APPLICATIONS

- Children Play Area
- Amusement Park
- Athletic Track
- Jogging Track
- Swimming Pool Deck
- Walkway or Corridor
- Patio or Recreational Park

# TPV Granules

Designed to perform in different range of temperatures and extreme weather conditions, Miroad TPV granule is the top-grade choice for pour-in-place rubber safety surfaces. The manufacturing of Miroad TPV combines both peroxide- and thermoplastic-vulcanizing technology to enhance curing process and help achieve an even more stable formation of cross-links between long rubber molecules and result in improved aging properties.

## PRODUCT FEATURES & BENEFITS



Peroxide and Thermoplastic Curing to Achieve Exceptional Aging Properties



Superior Chemical and Abrasion Resistance for Longer Life Span



Highly Advanced Granulating Technology for Various Granule Sizes



Standard-Compliant Hardness for Superlative Impact Absorption



Improved Color Stability and Color Permanence



Enhanced Resistance to Extreme Weather and Ultraviolet Light



## GENERAL PRODUCT INFORMATION

Hardness	65 Shore A
Polymer Content	≥25 %
Tensile Strength	≥ 7.0 MPa
Elongation at Break	≥ 800 %
Granules Size	1.0 - 4.0 mm
Flammability	Non-Flammable
Curing Method	Peroxide, Thermoplastic
Vulcanization	Hot Vulcanization

## ADDITIONAL ESPECIAL BENEFITS

- High Versatility and Durability :  
Better Flooring Performance
- Excellent Aging Properties :  
Longer Flooring Life Span
- Consistent Size and Color :  
Facilitate Smoother Installation
- Exceptional Binder Compatibility :  
Consume Relatively Lesser Binder

# EPDM Mulch

Miroad EPDM Mulch is a revolutionary component designed for crafting fall protection surfaces, recreational havens, and inviting walkways. Miroad EPDM Mulch offers a water-permeable surface that not only safeguards but also presents an economically savvy alternative to traditional organic mulches. The remarkable color stability and effortless maintenance set Miroad EPDM Mulch apart from other alternate loose materials such as PU-coated rubber mulches, bark mulch, and wood cuttings.

## PRODUCT FEATURES & BENEFITS

-  High Permeability for Effective Drainage and Puddles Prevention
-  Cost-Effective Alternative to Traditional Organic Mulches
-  Exceptional Color Stability to Maintain Visual Appeal with Minimal Upkeep
-  Low Maintenance Without the Constant Need for Removal or Replacement
-  Enhanced Safety to Minimize the Risk of Tripping or Injuries
-  Highly Versatile Solution for Various Applications or Environments



## GENERAL PRODUCT INFORMATION

Hardness	65 Shore A
Polymer Content	≥25 %
Tensile Strength	≥ 7.0 MPa
Elongation at Break	≥ 800 %
Granules Size	2 - 50 mm
Bulk Density	450 kg / m <sup>3</sup>
Coverage	7.5 kg / 10mm / m <sup>2</sup>

## APPLICATIONS

- Playground
- Recreational Area or Public Park
- Garden and Landscape
- Nature Trail
- Theme Park
- Residential Garden or Play Area
- Campground or Campus Ground
- Dog Park

# Recycled/ SBR Granules

Miroad SBR Black Granules are reclaimed and derived from used car tyres, rejected vulcanized rubber products or automotive parts. For being economical, having high tensile strength and abrasion resistant, SBR Granules are popularly used in the installation of EPDM Granules wet pour surfacing as underlayment to achieve safety floor thickness requirement and high-impact absorbency.

## PRODUCT FEATURES & BENEFITS



Highly Economical and Ideal for Base Layer to Achieve Thickness Requirement



Non-Toxic and Environmentally Friendly Recycled Materials



Highly Advanced Granulating Technology for Various Granule Sizes



Standard-Compliant Impact Absorbency for Underlayment



Excellent Sound Insulation and Anti Vibration



Excellent Weather, Abrasion, and Crack Resistance for Superb Durability



## GENERAL PRODUCT INFORMATION

Hardness	50 - 70 Shore A
Density	1.10 ± 0.1 kg/cm <sup>3</sup>
Tensile Strength	≥ 5.0 MPa
Elongation at Break	≥ 500 %

## APPLICATION

- Base layer of EPDM pour-in-place for children playground, recreational or multipurpose sports flooring.
- Production of rubber tiles.
- Rubber in-fill for synthetic grass field.



Black SBR Granules



Color Coated SBR



Shredded SBR



SBR Mulch

# Polyurethane Binder

Miroad Polyurethane Binder is a single-component, solvent-free, and MDI based binder made primarily to mix with rubber granules for the installation of cast-in-situ rubber flooring. This moisture-curing binder is ideal for both elasticized rubber base layers and finish surfaces under ambient temperature and humidity.

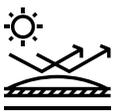
## PRODUCT FEATURES & BENEFITS



Highly Optimum Open Time for Usage Under Various Climate Conditions in Different Regions



Non-Toxic and Free from Harmful Chemicals to Reduce Release of Pollutants



High UV Resistance for Minimal Yellowing Effect on Rubber Color Granules



Excellent Weather Resistance and Resilience for Exceptional Flooring Durability



## AROMATIC

Aromatic Binder is the most commonly used binder in cast-in-situ rubber flooring owing to its high economic value and availability. Under high UV exposure, aromatic binder will likely experience temporary yellowing effect, which adds a light yellow tint on the color granules. However, the yellowed layer will eventually wear off from certain pedestrian traffic.

## GENERAL PRODUCT INFORMATION

Curing Time	8 - 12 Hours
Color	Pale Amber/Clear

## ALIPHATIC

Aliphatic Binder offers superior UV resistance as compared to aromatic binder. Comes with a premium price, aliphatic binder is known as a "non-yellowing binder" that is able to preserve the original colors of rubber granules. Aliphatic binder is more commonly used with color granules that are more sensitive towards yellowing effect such as blue, grey, and white.

Viscosity	3000 - 4000 mPas at 25°C
Specific Gravity	1.10g/cm <sup>3</sup> at 20°C

# Safety Play Tile

Miroad Safety Play Tile is one of the perfect safety flooring solutions for indoor and outdoor playground surfaces. The tiles are designed with exceptional shock and impact absorbing features that provide protection from serious injuries. Miroad Safety Play Tiles have been tested for the crucial quality standards of safety flooring such as anti-slip feature and critical fall height to fulfill market requirements of play spaces.

## PRODUCT FEATURES & BENEFITS



Wide Range of Colors and Designs for Aesthetically Pleasing Safety Floors



Non-Toxic and Environmentally Friendly Virgin Materials



Standard-Compliant Head Injury Criterion (HIC) for Fall Protection



Conform to Density Requirements for Superlative Impact Absorption



Easy Installation, Maintenance or Replacement



Anti-Slip Surface for Fall and Injury Prevention



## GENERAL PRODUCT INFORMATION

Size	500 x 500 or 1000 x 1000 mm
Thickness	25 - 110 mm
Shape	Square
Material	SBR / EPDM
Density	800 ± 50 kg/m <sup>3</sup>
Finishing Option	Black or Pigmented/ EPDM Speckled/ Full EPDM

## APPLICATIONS

- Children Play Area
- Patio
- Amusement Park
- Exhibition Hall
- Swimming Pool Deck
- Walkway or Corridor
- Recreational Park
- Outdoor Fitness Area

# Gym Tile

Miroad Gym Mat is the ideal flooring solution for home or commercial fitness area as it is designed to provide exceptional sound proofing, anti-slip feature and shock absorption. Miroad Gym Mats are available in the options of Standard Gym Mat and Laminated Gym Mat. These heavy duty gym mats help protect the floor from damage as they are able to withstand the heavyweight drops and vibration during a workout.

## PRODUCT FEATURES & BENEFITS



Various Surface Appearance and Color Blend Options for Flexible Design



Non-Toxic and Environmentally Friendly Recycled Materials



Standard-Compliant Head Injury Criterion (HIC) for Fall Protection



High Density to Withstand Heavyweight Drops and Vibration to Protect Subfloor



Easy Installation, Maintenance or Replacement



Anti-Slip Surface for Fall Prevention

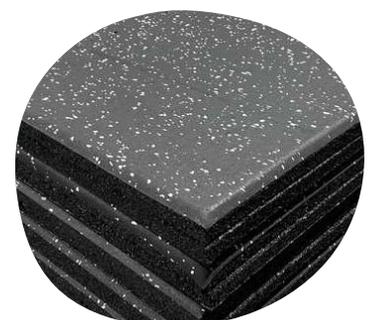


## FINISHING OPTIONS

### STANDARD



### LAMINATED



## GENERAL PRODUCT INFORMATION

Size	500 x 500 or 1000 x 1000 mm
Thickness	10 - 50 mm
Shape	Square
Material	SBR / EPDM
Density	900 ± 50 kg/m <sup>3</sup>

## APPLICATIONS

- Fitness Areas or Gym
- Heavy Duty Training Site
- Heavyweight Drops Area
- Industrial Flooring

# Interlocking Tile

Miroad Interlocking Tiles are appropriate for a wide range of use, from industrial to residential. Comes in several specifications, all types of Miroad Interlocking Tiles share the common features of having excellent durability and great versatility. The integrated connectors of Miroad Interlocking Tiles allow fast and easy installation as well as replacement for loose lay flooring where adhesive is not compulsory for the installation of Miroad Interlocking Tiles.

## PRODUCT FEATURES & BENEFITS

-  Wide Range of Colors and Designs for Aesthetically Pleasing Safety Floors
-  Non-Toxic and Environmentally Friendly Recycled Materials
-  Standard-Compliant Head Injury Criterion (HIC) for Fall Protection
-  Conform to Density Requirements for Superlative Impact Absorption
-  Integrated Connectors to Allow Fast and Easy Installation
-  Anti-Slip Surface for Fall Prevention



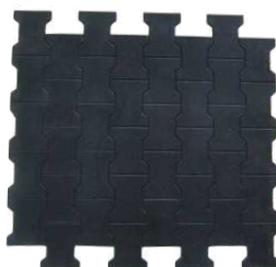
## GENERAL PRODUCT INFORMATION

Type	<u>V-Interlocking</u>	<u>40-I Interlocking</u>	<u>Pre-Molded Interlocking</u>
Size	500 / 1000mm	1145 x 1100mm	500 x 500mm
Thickness	10 or 15mm	20 - 45mm	40 - 100mm

V - INTERLOCKING TILE



40 - I INTERLOCKING TILE



PRE-MOULDED INTERLOCKING TILE



# Paving Tile

Miroad Rubber Paving Tile, also known as Rubber Paver, is made of recycled crumb rubber to provide innovative and environmental friendly solution of waste. Miroad Rubber Pavers are available in a variety of types of shapes and patterns, where each and every option is designed to allow fast and easy installation with or without adhesive onto hard substrate. The high density of these rubber pavers also makes them extremely durable to be installed at heavy-duty or high traffic areas.

## PRODUCT FEATURES & BENEFITS

-  Non-Toxic, Environmentally and Animal Friendly Recycled Materials
-  Excellent Noise and Vibration Absorption and Thermal Insulation
-  High Flexibility, Resilience, and Frost Resistance
-  Conform to Density Requirements for Superlative Impact Absorption
-  Hassle-free Installation With or Without Adhesive
-  Anti-Slip Surface for Fall and Injury Prevention



## APPLICATIONS

- Equestrian Area
- Animal Barn
- Walkway
- Patio or Garage
- Playground
- Golf Course Area

## GENERAL PRODUCT INFORMATION

### DOG BONE PAVER



Size	200 x 160mm
Thickness	45mm
Density	850 ± 50 kg/m <sup>3</sup>
Coverage	36 pcs/m <sup>2</sup>

### 6H PAVER



Size	912 x 528mm
Thickness	45mm
Density	850 ± 50 kg/m <sup>3</sup>
Coverage	2 pcs/m <sup>2</sup>

### H PAVER



Size	304 x 304mm
Thickness	45mm
Density	850 ± 50 kg/m <sup>3</sup>
Coverage	12 pcs/m <sup>2</sup>

### BRICK PAVER



Size	400 x 400mm
Thickness	25mm
Density	850 ± 50 kg/m <sup>3</sup>
Coverage	6 pcs/m <sup>2</sup>

# Mi - Roll

As a global leading manufacturer of recycled rubber flooring, Miroad continually innovates and extends our range of flooring solutions for sport, recreational, commercial, and hospitality applications. Mi-Roll, denoting "Miroad Rubber Roll Mat", is made available for either underlayment or finishing layer. Designed with a variety of thicknesses, densities, and color options, both Mi-Roll Underlay and Top Layer strive to achieve high functionality, performance, creativity, and user satisfaction.

## PRODUCT FEATURES & BENEFITS



Wide Variety of Color Blend Options for Flexible and Seamless Flooring Design



Non-Toxic and Environmentally Friendly Recycled Materials



Extended Durability and Product Life Resulting in Cost and Time Saving



High Resilience and Shock Absorption for Enhanced Underfoot Comfort



Easy Installation, Maintenance or Replacement



Anti-Slip Surface for Fall and Injury Prevention



## GENERAL PRODUCT INFORMATION

Width	1m or 1.2m
Length	10m - 20m per roll
Thickness	2mm - 12mm
Density	Underlay: 850 ± 50 kg/m <sup>3</sup> Top: 1100 ± 50 kg/m <sup>3</sup>

## APPLICATIONS

- Fitness Center
- Exhibition Hall
- Musuem
- Walkway
- Ski Resort
- Office Area
- Health Care Center
- Community Center
- Residential Floor

## FINISHING OPTIONS

### UNDERLAY



### FINISH/ TOP LAYER



# Rubber Border

Miroad Rubber Border is made specifically for the use in landscaping and gardening for any recreational or playground areas. Designed with a special and functional interlocking system, the rubber borders can be connected effortlessly to create a seamless edge that help keep rubber mulch, soil, or other gardening substances in place. Miroad Rubber Border is a great alternative to hard edging materials owing to its safety features as well as design flexibility to form any shape.

## PRODUCT FEATURES & BENEFITS



Non-Toxic and Environmentally Recycled Materials



Pin-Connecting Interlocking System to Allow Design Flexibility



Excellent Shock and Impact Absorption to Minimize Risk of Injury



Easy Installation, Maintenance or Replacement



## GENERAL PRODUCT INFORMATION

### ROUNDED BORDER



Width	51mm
Length	1.22m
Height	127mm
Pin Connector	Available

### STACK BORDER



Width	101mm
Length	1.21m
Height	114mm
Pin Connector	Available

## APPLICATIONS

The main application or function of rubber border is to **hold loose rubber mulch, soil or rocks in place**, acting as a 'curb' in **landscaping, gardening, playground edging system**.



# Ballistic Rubber Product

Miroad ballistic rubber products, including ballistic tiles and blocks, are designed to provide unparalleled safety and protection in ballistic environments. Engineered with cutting-edge technology and superior materials, our ballistic rubber products are specifically made to resist penetration from high-velocity projectiles, providing a reliable barrier against potential threats. This ensures enhanced safety for personnel and equipment in shooting ranges, military training facilities, and other high-risk environments.

## PRODUCT FEATURES & BENEFITS



Exceptional Anti-Penetration Capability for Enhanced Safety



Reliable Ricochet Reduction to Reduce the Likelihood of Dangerous Rebound



Non-Toxic and Environmentally Friendly Recycled Materials



Versatile and Customizable to Suit Each Specific Requirements Seamlessly



Effortless Installation for Quick Setup and Configuration in Various Settings



Great Durability to Withstand Repeated Impact from Projectiles



## GENERAL PRODUCT INFORMATION

### BALLISTIC TILE



Dimension	500 x 500mm / 610 x 610mm / 1000 x 500mm
Thickness	25 - 50mm
Density	900 ± 50 kg/m <sup>3</sup>
Color Option	Full Black / Pigmented Red or Green

### BALLISTIC BLOCK



Dimension	500 x 300 x 200 / 225 / 250mm 500 x 250 x 250mm 610 x 305 x 230mm
Density	900 ± 50 kg/m <sup>3</sup>
Color Option	Full Black / Pigmented Red or Green

# RPC Decking

Miroad Rubber-Plastic Composite (RPC) Decking is a revolutionary decking solution that combines the durability of recycled rubber with the versatility of composite materials. The surface of each RPC Decking tile is carefully engineered with a textured pattern, offering an excellent grip that minimizes the risk of slips and falls. The integrated connectors of Miroad RPC Tiles also allow fast and hassle-free installation or replacement. Advanced technologies are employed to maximize the bonding between the composite materials to exhibit exceptional resistance to cracking, warping, rotting, and insect damage, ensuring long-lasting performance even in the face of adverse weather conditions.

## PRODUCT FEATURES & BENEFITS

-  Utilization of Recycled Rubber to Reduce Waste and Improve Sustainability
-  Limitless Color Customization for Aesthetic Outdoor Spaces Design
-  Superior Durability and Resilience to Guarantee Long-Lasting Performance
-  Fade and Stain Resistant to Maintain Vibrant Appearance Over Time
-  Integrated Connectors for Hassle-Free Installation and Easy Maintenance
-  Grip Enhancement by Textured Pattern to Prevent Slip and Risk of Accidents



## GENERAL PRODUCT INFORMATION

Size	300 x 300 mm
Thickness	15 mm
Shape	Square
Material	SBR + PP/PE
Density	1.0 ± 0.5 kg/m <sup>3</sup>

## APPLICATIONS

- Patio
- Balcony
- Office Area
- Walkway
- Garden Area
- Outdoor Recreational Area

# Sport Coat

Miroad Sport Coat is an ultimate finishing solution specially formulated by our in-house R&D team to revolutionize the performance and aesthetics of rubber surfaces. This innovative coating system offers a range of benefits that mainly enhance protection, color vibrancy, customization options, and overall aesthetics of rubber flooring products.

The Sport Coat serves as an additional layer applied to various rubber surfaces, including Miroad Play Tiles, Interlocking Tiles, and Mi-Roll, providing an extra level of protection against wear and tear. With Miroad Sport Coat, there will be freedom to explore limitless color customization options that unavailable in the market. Not only does the Sport Coat enhance the products' existing color vibrancy, it also extends their lifespans by preventing color fading.

## PRODUCT FEATURES & BENEFITS



Advanced Protective Coating for Longer Flooring Lifespan



Vibrant Color Enhancement and Limitless Customization



Good UV Resistance for Prevention or Reduction of Color Fading



Seamless Application for Smooth and Consistent Rubber Surface Finish



Scratches and Scuffs Resistance for Better Overall Durability



Friction Enhancement for Reduction of Risk of Slips and Falls



## APPLICATIONS

- Color Coating for Various Rubber Flooring Products
- Graphic or Logo Printing
- 3D Picture or Graphic Printing
- Color Customization and Vibrancy Enhancement

## 3D Rubberized Item

Unleash your imagination with Miroad 3D Rubberized Items - a realm of boundless creativity, unwavering safety, and enduring durability.

Crafted from Miroad EPDM granules, our 3D Rubberized Items are the gateways to a world of inspired design and secure play. From whimsical animals to functional furniture and captivating designs, the possibilities are as limitless as your imagination.

Made of the trusted Miroad EPDM Granules, all 3D Rubberized Items offer a resilient cushioning that minimizes the risk of injuries from strong impact, ensuring a secure environment for play and exploration.



Miroad Research and Development team harnesses the power of AI to make customization possible beyond imagination. Whether you have a design in mind or prefer to communicate your project needs to our sales personnel, our AI-driven processes enable us to bring your ideas to life.

Elevate any setting with Miroad 3D Rubberized Items. Enliven public spaces, educational institutions, parks, and recreational areas with a touch of whimsy and functionality. These items redefine how spaces are experienced, inviting individuals of all ages to engage, explore, and find comfort in their surroundings!

# Color Chart

## EPDM G / TPV G / EPDM M



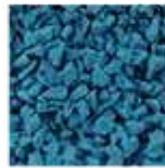
Red  
01



Green  
02



Light Green  
03



Blue  
04



Light Blue  
05



Orange  
06



Yellow  
07



Golden Yellow  
08



Brown  
09



Light Brown  
10



Grey  
11



Light Grey  
12



Eggshell  
13



Pink  
14



Purple  
15



White  
16



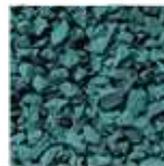
Grass Green  
17



Navy Blue  
18



Rose Red  
19



Blue Grey  
20



Turquoise  
21

## C SBR



Golden Yellow



Cocoa



Dark Grey



Dark Green



Dark Blue



Red



Bright Yellow



Brown



Grey



Green



Blue



Mid Red



Purple



Beige



Eggshell



Teal



Light Blue



Pink

# Color Chart

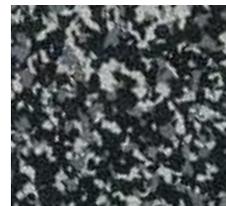
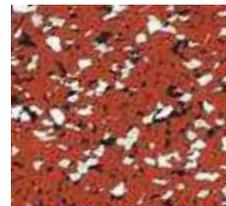
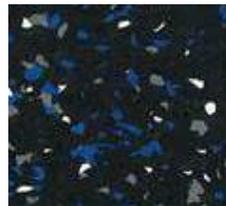
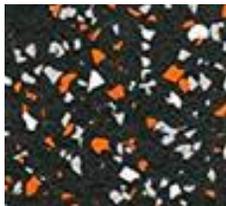
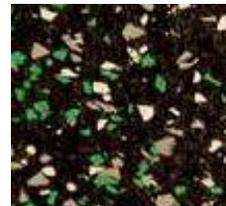
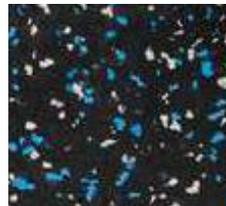
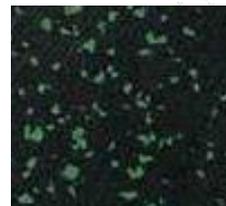
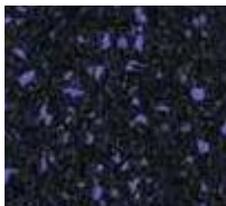
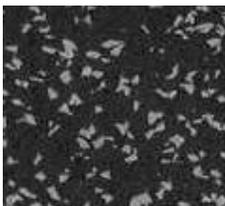
## PU (Polyurethane)

Available for: Safety Play Tile, Paving Tile, Rubber Border.



## EPDM (Ethylene Propylene Diene Monomer)

Available for: Safety Play Tile, Gym Tile, Interlocking Tile, Roll Mat.



\*Color and Percentage of EPDM Speckles are customizable.



# MIROAD RUBBER INDUSTRIES SDN BHD

Rubber products for various applications including automotive, industrial, and consumer goods. We provide high-quality rubber solutions for a wide range of markets.



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