



SANDHYAFLEX

ISO 9001:2015 certified company

Sponge Rubber Sheet

TECHNICAL DATASHEET

SANDHYAFLEX Sponge Rubber Sheet is a high-performance cellular elastomeric solution designed to provide excellent cushioning, sealing, vibration damping, thermal insulation, and sound absorption performance for a wide range of industrial, commercial, and engineering applications. Manufactured from premium-quality Natural Rubber, Synthetic Rubber, EPDM, Neoprene, Nitrile, Silicone, and other specialty rubber compounds, these sheets are engineered to deliver superior compressibility, resilience, flexibility, and long-term durability under diverse operating conditions.

The unique cellular structure of sponge rubber provides exceptional cushioning and recovery characteristics, making these sheets particularly suitable for applications involving sealing, shock absorption, vibration isolation, acoustic insulation, thermal insulation, gasketing, and protective padding. Their excellent flexibility allows them to conform to irregular surfaces while maintaining effective sealing performance and dimensional stability.

SANDHYAFLEX INDIA PVT LTD has established itself as a trusted manufacturer and supplier of premium-quality Sponge Rubber Sheets in India, delivering products that combine flexibility, durability, and dependable performance. Manufactured using carefully selected rubber compounds and advanced foaming and vulcanization processes, these sheets are designed to maintain their physical and mechanical properties throughout their service life while providing consistent performance in demanding industrial applications.

Overcoming Challenges, Delivering Excellence:

Industrial sealing, insulation, cushioning, and vibration control applications often encounter challenges such as air leakage, water ingress, noise transmission, vibration transfer, impact loading, repeated compression, and environmental exposure. These conditions can reduce equipment efficiency, increase maintenance requirements, and affect operational reliability.

Recognizing these challenges, SANDHYAFLEX developed its Sponge Rubber Sheet range using premium-quality cellular rubber compounds specifically engineered to provide excellent compressibility, recovery, flexibility, and sealing performance. The material exhibits outstanding cushioning and vibration-damping characteristics while maintaining dimensional stability and durability under normal operating conditions.

By delivering a versatile and reliable solution, SANDHYAFLEX Sponge Rubber Sheets have become a preferred choice for sealing, gasketing, thermal insulation, soundproofing, vibration isolation, HVAC systems, automotive applications, electrical enclosures, and general engineering applications where dependable performance and long service life are essential.

Key Features:

- Manufactured from premium-quality cellular rubber compounds.
- Excellent compressibility and recovery characteristics.
- Superior cushioning and shock absorption performance.
- Excellent vibration damping properties.
- Good sound absorption and acoustic insulation.
- Effective thermal insulation characteristics.
- Excellent flexibility and conformability.
- Lightweight construction.
- Available in open-cell and closed-cell structures.
- Good resistance to water and moisture (closed-cell grades).
- Suitable for sealing, gasketing, and padding applications.
- Easy to cut, fabricate, punch, and install.
- Available in multiple densities, hardness grades, and thicknesses.
- Durable construction designed for long service life.
- Provides reliable performance across a wide range of industrial applications.

Applications:

- **Industrial Gaskets and Seals:** Used for compressible sealing applications requiring effective air and water sealing.
- **HVAC Systems:** Suitable for duct sealing, air handling units, and thermal insulation applications.
- **Vibration Isolation Pads:** Used for machinery and equipment vibration control.
- **Acoustic Insulation:** Provides sound absorption and noise reduction in industrial and commercial environments.
- **Thermal Insulation Applications:** Used for heat and cold insulation systems.
- **Electrical Enclosures:** Provides cushioning, sealing, and environmental protection.
- **Automotive Industry:** Used for sealing, anti-vibration, anti-rattle, and noise-reduction applications.

- **Construction Sector:** Used for expansion joints, weather sealing, and insulation systems.
- **Packaging Applications:** Provides shock absorption and product protection.
- **Marine Applications:** Suitable for sealing and cushioning applications exposed to moisture.
- **Railway and Infrastructure Projects:** Used for vibration control and protective sealing applications.
- **Appliances and Consumer Products:** Used for insulation, sealing, and cushioning components.
- **Industrial Equipment Protection:** Used as protective pads and cushioning elements.
- **General Engineering Applications:** Suitable for diverse industrial sealing, insulation, and cushioning requirements.

History of Sponge Rubber Sheets:

- **Early 1900s** – Development of cellular rubber materials enabled lightweight and compressible sealing products.
- **1920s** – Sponge rubber products began gaining popularity in industrial sealing and cushioning applications.
- **1940s** – Large-scale industrial adoption increased demand for compressible rubber insulation materials.
- **1950s** – Improvements in foaming and vulcanization technology enhanced durability and performance.
- **1960s** – Sponge rubber became widely used in automotive, construction, and industrial sealing applications.
- **1970s** – Development of EPDM, Neoprene, and Nitrile sponge compounds expanded application possibilities.
- **1980s** – Advanced manufacturing processes improved density control and product consistency.
- **1990s** – Growing demand for acoustic and thermal insulation increased the use of sponge rubber products.
- **2000s** – Enhanced formulations improved weather resistance, sealing efficiency, and durability.
- **2020s** – Modern Sponge Rubber Sheets continue to play a critical role in sealing, insulation, cushioning, vibration control, and soundproofing applications worldwide, delivering reliable performance, flexibility, and long service life.

Sizes:

S.No	Size in Feet
1	3mm x 2Ft x 3ft
2	4mm x 2Ft x 3ft
3	5mm x 2Ft x 3ft
4	6mm x 2Ft x 3ft
5	8mm x 2Ft x 3ft
6	10mm x 2Ft x 3ft
7	12mm x 2Ft x 3ft
8	15mm x 2Ft x 3ft
9	20mm x 2Ft x 3ft
10	25mm x 2Ft x 3ft
11	50mm x 2Ft x 3ft

Colours and Their Applications:



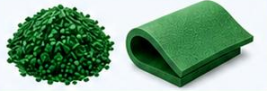
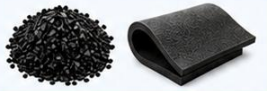

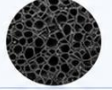


For Sponge Rubber Sheets, colours are generally used for identification, application-specific requirements, industry standards, aesthetic preferences, and customer specifications. In some cases, different colours may correspond to different rubber compounds such as EPDM, Neoprene, Nitrile, Silicone, or Natural Rubber sponge grades.









Colour	Typical Application
Black	General industrial sealing, cushioning, vibration isolation, and gasketing applications
Grey	HVAC systems, commercial sealing, insulation, and acoustic applications
White	Food processing, pharmaceutical, medical, and cleanliness-sensitive environments
Blue	Food industry applications and product identification requirements
Red	Silicone sponge applications requiring elevated temperature resistance
Green	Industrial cushioning, packaging, and project-specific applications
Brown	General-purpose sealing and protective padding applications
Custom Colours	Available as per client specifications and project requirements

Materials:

The Sandhyaflex Sponge Rubber Sheet shall be manufactured using high-quality Natural Rubber, Synthetic Rubber, EPDM, Neoprene (CR), Nitrile (NBR), Silicone, or other specialty rubber compounds designed to provide superior compressibility, resilience, cushioning performance, thermal insulation, acoustic insulation, and long-term durability.

The sheets shall be manufactured using advanced mixing, foaming, vulcanization, and finishing processes and shall be free from defects such as cracks, voids, delamination, foreign inclusions, uneven cell structure, or surface irregularities that may adversely affect performance or service life.

RAW MATERIALS OF SPONGE RUBBER SHEET BY SANDHYAFLEX				
S. No.	Raw Material	Image	Typical Grade / Example	Function / Purpose
1	Natural Rubber (NR) / Synthetic Rubber (SBR) (Base Elastomers)		<ul style="list-style-type: none"> NR Sponge / SBR Sponge Soft / Medium / Firm Density Grades 	<ul style="list-style-type: none"> Provides elasticity & resilience Excellent compression recovery Good cushioning & sealing General purpose applications
2	EPDM Sponge Compound		<ul style="list-style-type: none"> EPDM Sponge Open Cell / Closed Cell 	<ul style="list-style-type: none"> Excellent weather & ozone resistance Good water & steam resistance UV stable HVAC & outdoor applications
3	Neoprene (CR) Sponge Compound		<ul style="list-style-type: none"> Neoprene Sponge Medium / High Density 	<ul style="list-style-type: none"> Good oil, heat & chemical resistance Flame retardant grades available Good mechanical properties Industrial sealing applications
4	Nitrile (NBR) Sponge Compound		<ul style="list-style-type: none"> NBR Sponge Medium / High Density 	<ul style="list-style-type: none"> Excellent oil & fuel resistance Good abrasion resistance Suitable for oil-based environments Automotive & industrial use
5	Silicone Sponge Compound		<ul style="list-style-type: none"> Silicone Sponge High Temperature Grades 	<ul style="list-style-type: none"> Excellent heat resistance Non-toxic & food grade options Good compression set High & low temperature applications
6	Cell Structure Modifiers		<ul style="list-style-type: none"> Open Cell / Closed Cell / Semi-Closed Cell 	<ul style="list-style-type: none"> Tailored for specific applications Controls compressibility, sealing, insulation & recovery Improves performance characteristics
7	Foaming Agents		<ul style="list-style-type: none"> Physical Foaming Agents / Chemical Foaming Agents 	<ul style="list-style-type: none"> Creates uniform cell structure Ensures consistent density Improves compressibility Enhances cushioning performance
8	Additives & Fillers (If Applicable)		<ul style="list-style-type: none"> Antioxidants / Processing Oils / Fillers (Silica, Calcium Carbonate) / Colourants (If Required) 	<ul style="list-style-type: none"> Improve durability & aging resistance Enhance processing & surface finish Improve mechanical properties Provide colour & identification

MANUFACTURING PROCESS							
							
RAW MATERIALS MIXING	FOAMING & MILLING	CALENDERING (SHEET FORMING)	CUTTING TO SIZE	VULCANIZATION / CURING	SURFACE FINISHING & INSPECTION	QUALITY INSPECTION	FINISHED SPONGE RUBBER SHEET
EXCELLENT SEALING & RECOVERY		SUPERIOR CUSHIONING & VIBRATION DAMPING		THERMAL & ACOUSTIC INSULATION		DURABLE PERFORMANCE LONG SERVICE LIFE	

The material shall possess adequate resistance to repeated compression, vibration, mechanical shock, moisture, and normal industrial operating conditions. Depending on the compound selected, the sheets may also provide enhanced resistance to weathering, ozone, oils, chemicals, elevated temperatures, or flame exposure.

Manufactured from premium-quality cellular rubber compounds, Sandhyaflex Sponge Rubber Sheets provide reliable sealing, cushioning, vibration damping, thermal insulation, and acoustic performance across a wide range of industrial and commercial applications.

Physical and Mechanical Properties of Sandhyaflex Sponge Rubber Sheet:

S. No.	Property / Test	Requirement
1	Product Type	Sponge Rubber Sheet
2	Material Composition	Natural Rubber / EPDM / Neoprene / Nitrile / Silicone Sponge Compound
3	Colour	Black, Grey, White, Blue, Red, Green or Other Specified Colours
4	Manufacturing Process	Cellular Vulcanized Rubber Sheet

5	Structure	Mixed Open and Closed Cell
6	Shape	Flat Sheet
7	Surface Finish	Smooth Surface
8	Density Range	As per Compound and Application Requirements
9	Thickness Range	3 mm to 50 mm
10	Compression Recovery	Excellent
11	Compressibility	Excellent
12	Tensile Strength	As per Compound Grade
13	Elongation at Break	As per Compound Grade
14	Tear Resistance	Good
15	Resilience	Excellent
16	Shock Absorption	Excellent
17	Vibration Damping	Excellent
18	Acoustic Insulation	Excellent
19	Thermal Insulation	Excellent
20	Water Absorption	Low to Negligible
21	Moisture Resistance	Excellent
22	Weather Resistance	Good to Excellent (Compound Dependent)
23	Ozone Resistance	Good to Excellent (EPDM & Neoprene Grades)
24	Oil Resistance	Available in Nitrile Sponge Grades
25	Chemical Resistance	Compound Dependent
26	Flexibility	Excellent
27	Temperature Range	Compound Dependent
28	Dimensional Stability	Good
29	Typical Applications	Sealing, Gasketing, Thermal Insulation, Acoustic Insulation, Cushioning, Vibration Isolation
30	Country of Origin	Made in India
31	Availability	Standard and Custom Sizes Available
32	Maintenance Requirement	Low

Usage Tips:

- Select the appropriate sponge density, thickness, and mixed open-closed cell structure based on the intended application.
- Ensure compatibility between the sponge rubber compound and the operating environment, including temperature, moisture, oils, chemicals, and UV exposure.
- For sealing applications, apply suitable compression levels to achieve effective air, dust, water, or weather sealing without excessive deformation.
- Inspect sheets before installation for cuts, tears, punctures, compression damage, or surface defects.
- Use the correct adhesive, fastening, or bonding method where required to ensure secure installation.

- Keep contact surfaces clean and dry during installation to maximize sealing and bonding performance.
- Select closed-cell grades for moisture-resistant applications and open-cell grades for cushioning or acoustic insulation applications.
- Avoid excessive compression beyond the recommended limits to maintain long-term recovery characteristics.
- Follow applicable engineering, safety, and installation standards for the intended application.
- Installation and fabrication should be performed using suitable cutting, punching, and bonding equipment.

Maintenance and Care:

Maintaining Sandhyaflex Sponge Rubber Sheets is simple and helps ensure reliable long-term performance:

- **Regular Inspection:** Check periodically for wear, cuts, cracking, compression set, tearing, or mechanical damage.
- **Keep Clean:** Remove dirt, dust, grease, and contaminants using mild soap and water.
- **Proper Storage:** Store in a cool, dry place away from direct sunlight, excessive heat, ozone-producing equipment, and sharp objects.
- **Avoid Excessive Compression:** Do not store under heavy loads that may cause permanent deformation.
- **Prevent Chemical Damage:** Avoid prolonged exposure to incompatible oils, solvents, fuels, or aggressive chemicals unless the selected compound is specifically designed for such conditions.
- **Protect During Handling:** Avoid punctures, cuts, abrasion, and tearing during transportation and installation.
- **Maintain Suitable Environmental Conditions:** Avoid prolonged exposure to temperatures beyond the compound's recommended operating range.
- **Replace Damaged Material:** Replace sheets showing excessive compression set, loss of resilience, cracking, tearing, or deterioration.

Applications by Countries:

India

- Widely used in HVAC systems, industrial gasketing, acoustic insulation, vibration isolation, and sealing applications.
- Commonly installed in manufacturing plants, infrastructure projects, railways, automotive industries, and electrical equipment.
- Strong demand from industrial maintenance, construction, and engineering sectors.

China

- Extensively used in manufacturing industries, industrial sealing systems, and machinery protection applications.
- Preferred for thermal insulation, vibration damping, and cushioning applications.
- Widely utilized in automotive, electronics, and infrastructure sectors.

United States

- Widely used in HVAC systems, construction, automotive manufacturing, and industrial sealing applications.
- Commonly employed for weatherproofing, acoustic insulation, and vibration control systems.
- Increasing demand for energy-efficient sealing and insulation solutions.

Europe

- Preferred for industrial sealing, thermal insulation, acoustic control, and vibration-damping applications.
- Widely used in transportation, construction, renewable energy, and engineering industries.
- Strong demand due to energy-efficiency and environmental performance requirements.

Middle East

- Applied in commercial buildings, HVAC installations, industrial facilities, and infrastructure projects.
- Suitable for sealing, insulation, and weather-resistant applications in demanding climatic conditions.
- Widely used in construction, oil & gas, and utility sectors.

Africa

- Used in industrial facilities, mining operations, construction projects, and transportation infrastructure.
- Increasing demand for insulation, sealing, and equipment protection applications.

- Preferred for durability, ease of installation, and long service life.

Southeast Asia

- Widely used in manufacturing industries, HVAC systems, electronics, and commercial construction projects.
- Growing adoption in industrial insulation, acoustic treatment, and sealing applications.
- Supported by expanding infrastructure and industrial development.

Australia

- Preferred for mining operations, industrial processing facilities, construction projects, and transportation industries.
- Commonly used for vibration isolation, thermal insulation, weather sealing, and equipment protection applications.
- Strong demand in infrastructure, engineering, and industrial maintenance sectors.

Get in touch:

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