



Rubber Water Suction and Discharge Hose

TECHNICAL DATASHEET

SANDHYAFLEX Rubber Water Suction & Discharge Hose is a heavy-duty, flexible, and durable industrial hose specifically engineered for the suction and discharge of water, wastewater, muddy water, light slurry, and non-corrosive liquids in industrial, agricultural, mining, construction, dewatering, irrigation, and general fluid transfer applications. Manufactured using high-quality natural and synthetic rubber compounds reinforced with high-strength textile plies and steel wire helix reinforcement, these hoses are designed to provide excellent vacuum resistance, pressure handling capability, flexibility, and long-term operational reliability under demanding working conditions.

Designed to ensure efficient fluid transfer while minimizing downtime and maintenance requirements, Sandhyaflex Rubber Water Suction & Discharge Hoses provide superior flexibility, excellent suction capability, high burst strength, and dependable performance. These hoses are widely used in water pumping systems, irrigation networks, construction projects, mining operations, municipal services, industrial plants, and dewatering applications where durability, safety, and operational efficiency are essential.

SANDHYAFLEX INDIA PVT LTD has established itself as a trusted manufacturer of industrial hose solutions in India. Utilizing advanced hose-building technology, precision reinforcement processes, and carefully selected raw materials, Sandhyaflex Rubber Water Suction & Discharge Hoses are manufactured to deliver consistent quality, excellent dimensional stability, superior vacuum and pressure performance, and dependable long-term service.

Overcoming Challenges, Delivering Excellence:

Water handling systems frequently operate under fluctuating pressures, vacuum conditions, continuous flexing, outdoor exposure, abrasive environments, and demanding operating conditions. Conventional low-quality hoses often suffer from collapse under suction, reinforcement failure, leakage, cracking, reduced flexibility, and premature wear.

To address these challenges, SANDHYAFLEX Rubber Water Suction & Discharge Hoses are manufactured using specially formulated rubber compounds reinforced with high-tensile textile plies and steel wire helix reinforcement that provide excellent vacuum resistance, pressure handling capability, flexibility, fatigue resistance, and environmental durability. The robust construction ensures reliable fluid transfer, improved operational efficiency, reduced downtime, and extended service life.

By delivering superior durability and dependable performance, SANDHYAFLEX Rubber Water Suction & Discharge Hoses have become the preferred choice for industrial operators, contractors, farmers, mining companies, municipal authorities, construction professionals, and maintenance teams worldwide.

Key Features:

- Manufactured using high-quality natural and synthetic rubber compounds
- Reinforced with high-strength textile plies and steel wire helix
- Suitable for water suction and discharge applications
- Excellent vacuum resistance
- High working pressure capability
- Excellent burst pressure performance
- Superior flexibility and handling characteristics
- Outstanding abrasion resistance
- Resistant to weathering, moisture, ozone, and UV exposure
- Smooth bore for efficient flow characteristics
- Excellent kink resistance
- Durable steel wire reinforced construction
- Available in multiple diameters and pressure ratings
- Suitable for indoor and outdoor applications
- Low maintenance requirements
- Cost-effective fluid transfer solution
- Long service life under demanding operating conditions

Applications:

- **Agricultural Irrigation:** Water suction and delivery for irrigation systems.
- **Construction Industry:** Dewatering, water pumping, and site drainage applications.
- **Mining Operations:** Water transfer, pit dewatering, and utility services.
- **Industrial Plants:** Water circulation, process water transfer, and utility services.
- **Municipal Services:** Water supply, drainage, and wastewater handling.

- **Pump Connections:** Suction and discharge side connections for pumps.
- **Water Treatment Plants:** Water intake and transfer operations.
- **Marine and Port Operations:** Water handling and service applications.
- **Flood Control Systems:** Emergency water evacuation and drainage.
- **Engineering Projects:** General water conveyance and transfer systems.
- **Infrastructure Development:** Water management and construction support.
- **Utility Services:** Multi-purpose industrial and commercial water handling.

History of Rubber Water Suction & Discharge Hoses:

- **Early 1900s** – Basic rubber hoses were used for water conveyance and pumping applications.
- **1930s** – Textile reinforcement improved hose strength and durability.
- **1950s** – Steel wire helix reinforcement enhanced suction performance.
- **1960s** – Synthetic rubber compounds improved weather resistance and flexibility.
- **1970s** – Advanced reinforcement technology increased vacuum and pressure capabilities.
- **1980s** – Improved manufacturing processes enhanced dimensional stability and service life.
- **1990s** – Better rubber formulations improved ozone and environmental resistance.
- **2000s** – Growth in infrastructure and irrigation projects increased demand for suction hoses.
- **2010s** – Modern hose-building technologies improved performance and reliability.
- **2020s** – Advanced Rubber Water Suction & Discharge Hoses provide superior flexibility, vacuum resistance, pressure handling capability, and long-term durability across industrial applications worldwide.

Dimensions:

Nom. Bore in (mm)	Tolerance on Nom. bore (mm)	Min. Thk. of Lining (mm)	Min. Thk. of Cover (mm)	Min. Thk. of Filler (mm)	Length of Soft ends (mm)
25.00	± 1.25	2.00	1.50	30 45	80±5
31.50	± 1.25	2.00	1.50	1.00	80±5
38.00	±1.50	2.00	1.50	1.00	80±5
45.00	± 1.50	2.00	1.50	1.00	80±5
50.00	± 1.50	2.50	1.50	1.00	80±5
56.00	± 1.50	2.50	1.50	1.00	80±5
63.00	± 1.50	2.50	1.50	1.00	80±5
75.00	±2.00	2.50	1.50	1.00	80±5
100.00	±2.00	3.00	1.50	1.50	105±5
125.00	±2.00	3.00	2.00	1.50	145±5
150.00	±2.00	3.00	2.00	1.50	145±5
200.00	±2.00	3.50	2.00	2.00	145±5
250.00	±3.00	3.50	2.00	2.00	145±5

Colours and Their Applications:

For Sandhyaflex Rubber Water Suction & Discharge Hoses, colours are primarily used for product identification, application classification, pressure rating identification, safety coding, inventory management, and customer-specific requirements. The pressure handling capability, suction performance, flexibility, durability, and service life are determined by the rubber compounds and reinforcement construction rather than the colour.



Colour	Typical Application
Black	Standard industrial water suction and discharge applications
Blue	Water supply, irrigation, and utility services
Red	High-pressure water transfer systems
Yellow	Construction sites and safety identification
Green	Agricultural irrigation and horticultural applications
Orange	Heavy-duty industrial and mining operations
Grey	Municipal and general-purpose water transfer
Custom Colours	Available as per customer specifications and project requirements







Materials:

The **Sandhyaflex Water Suction & Discharge Rubber Hose** shall be manufactured using high-quality natural and synthetic rubber compounds, high-strength textile reinforcement fabrics, steel wire helix reinforcement, bonding agents, processing additives, pigments, and

weather-resistant cover compounds specifically engineered to provide excellent suction capability, pressure resistance, flexibility, abrasion resistance, and long-term durability in water transfer applications.

The hose construction shall consist of a smooth water-resistant rubber inner tube, multiple textile reinforcement plies, embedded steel wire helix for vacuum resistance, weather-resistant outer cover, and specially formulated bonding compounds designed to ensure excellent structural integrity, flexibility, suction performance, and reliable service throughout the operational life of the hose.

RAW MATERIALS OF RUBBER WATER SUCTION & DISCHARGE HOSE BY SANDHYAFLEX				
S. No.	Raw Material	Image	Typical Grade / Example	Function / Purpose
1	Natural Rubber (NR)		<ul style="list-style-type: none"> RSS Grade Natural Rubber SMR / CV / L Grade 	<ul style="list-style-type: none"> Provides elasticity & flexibility Enhances fatigue resistance Improves overall durability
2	Synthetic Rubber (SBR / NR Blend)		<ul style="list-style-type: none"> SBR 1502 / 1500 SBR / NR Blend High Abrasion Grade 	<ul style="list-style-type: none"> Enhances abrasion resistance Improves aging and heat resistance Provides good mechanical strength
3	Reinforcement Fabric (Textile Plies)		<ul style="list-style-type: none"> Polyester Fabric Nylon Fabric High Tensile Polyester Cord 	<ul style="list-style-type: none"> Provides tensile strength Improves burst resistance Ensures dimensional stability
4	Steel Wire Helix		<ul style="list-style-type: none"> Galvanized Steel Wire Helix High Tensile Spring Steel Wire 	<ul style="list-style-type: none"> Provides vacuum (suction) resistance Prevents hose collapse Increases structural strength
5	Fillers		<ul style="list-style-type: none"> Carbon Black (N-330 / N-550) Calcium Carbonate Clay / Silica 	<ul style="list-style-type: none"> Improves abrasion resistance Enhances hardness & strength Reduces cost & improves stability
6	Processing Oils		<ul style="list-style-type: none"> Process Oil (Aromatic / Naphthenic) Extender Oils 	<ul style="list-style-type: none"> Improves processability Enhances flexibility Reduces internal heat generation
7	Anti-Oxidants & Stabilizers		<ul style="list-style-type: none"> Anti-Oxidant (TMQ / RD) Heat Stabilizers Wax 	<ul style="list-style-type: none"> Prevents aging and cracking Improves heat & ozone resistance Extends service life
8	Colorants & Pigments (If Applicable)		<ul style="list-style-type: none"> Iron Oxide / Organic Pigments Carbon Black 	<ul style="list-style-type: none"> Provides identification Enhances appearance UV resistant colours

MANUFACTURING PROCESS																
	→		→		→		→		→		→		→		→	
RAW MATERIALS MIXING		CALENDERING (SHEET FORMING)		CUTTING TO SIZE		INNER TUBE EXTRUSION		FABRIC PLY & WIRE HELIXING		OUTER COVER EXTRUSION		VULCANIZATION / CURING		QUALITY INSPECTION		FINISHED WATER SUCTION & DISCHARGE HOSE

HIGH QUALITY MATERIALS	EXCELLENT SUCTION & DISCHARGE PERFORMANCE	ABRASION & WEATHER RESISTANT	RELIABLE & DURABLE	COMPLIANT WITH STANDARDS	LONG SERVICE LIFE
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The components shall possess excellent resistance to water, moisture, weathering, ozone exposure, UV radiation, abrasion, flexing, vacuum conditions, pressure fluctuations, and demanding operating environments commonly encountered in agriculture, irrigation systems, construction projects, mining operations, dewatering systems, industrial facilities, municipal services, and general water handling applications.

Manufactured from carefully selected rubber compounds and reinforcement materials, Sandhyaflex Water Suction & Discharge Rubber Hoses provide reliable water transfer, superior suction capability, excellent pressure performance, reduced maintenance requirements, and extended operational life across a wide range of industrial, agricultural, and infrastructure applications.

Physical and Mechanical Properties – Sandhyaflex Water Suction & Discharge Rubber Hose:

S. No.	Property / Test	Requirement
1	Product Type	Water Suction & Discharge Rubber Hose
2	Material Composition	Natural/Synthetic Rubber with Textile and Steel Helix Reinforcement
3	Colour	Black / Blue / Green / Red / Custom Colours
4	Hose Type	Water Suction and Delivery Hose
5	Shape	Cylindrical Flexible Hose
6	Surface Finish	Smooth or Wrapped Finish
7	Construction	Multi-Layer Reinforced Rubber Hose
8	Inner Tube	Water Resistant Natural/Synthetic Rubber
9	Reinforcement	High Tensile Textile Cord with Steel Wire Helix
10	Outer Cover	Weather Resistant Rubber Compound
11	Abrasion Resistance	Good
12	Wear Resistance	Good
13	Tensile Strength	High
14	Elongation at Break	High
15	Pressure Resistance	Excellent
16	Vacuum Resistance	Excellent
17	Flexibility	Excellent
18	Kink Resistance	Good
19	Impact Resistance	Good
20	Fatigue Resistance	Excellent
21	Water Resistance	Excellent
22	Moisture Resistance	Excellent
23	Weather Resistance	Excellent
24	UV Resistance	Excellent
25	Ozone Resistance	Excellent
26	Corrosion Resistance	Excellent
27	Temperature Resistance	Suitable for Industrial Operating Conditions
28	Flow Efficiency	High Due to Smooth Bore Construction
29	Dimensional Stability	High
30	Working Pressure	As per Design and Application Requirement
31	Burst Pressure	As per Hose Design Specification
32	Internal Diameter Range	Project Specific
33	Length Availability	Standard and Custom Lengths Available
34	End Connections	Plain Ends, Flanged, Clamped, Coupled or Custom Fittings
35	Service Life	Long-Term Durable Performance
36	Typical Applications	Water Suction, Water Discharge, Dewatering, Irrigation and Industrial Water Transfer

37	Country of Origin	Made in India
38	Maintenance Requirement	Low

Usage Tips:

- Select the appropriate hose diameter, working pressure, vacuum rating, reinforcement construction, and length based on water flow requirements, suction lift, discharge distance, and operating conditions.
- Ensure compatibility between the hose, pumps, couplings, valves, strainers, and associated equipment before installation.
- Verify that the hose pressure rating, vacuum capability, and reinforcement design meet project specifications and operational requirements.
- Inspect hoses, flanges, couplings, clamps, connectors, and fittings before installation for damage, cuts, cracks, deformation, or manufacturing defects.
- Ensure proper alignment and secure connection of hose assemblies to minimize stress concentration and prevent leakage during operation.
- Use recommended couplings, clamps, connectors, and installation procedures specified by equipment manufacturers and project engineers.
- Maintain the minimum recommended bending radius to prevent kinking, excessive stress, and premature hose failure.
- Avoid twisting, dragging over sharp surfaces, excessive impact, or improper handling during transportation, storage, and installation.
- Ensure all hose assemblies are adequately supported and protected from excessive vibration, mechanical damage, and external abrasion.
- Installation and commissioning should be carried out by qualified personnel using approved operating procedures.
- Follow applicable industrial safety standards and project-specific operating guidelines throughout installation and operation.

Maintenance and Care:

Maintaining **Sandhyaflex Water Suction & Discharge Rubber Hoses** ensures maximum operational efficiency, extended service life, and reliable water transfer performance.

- **Regular Inspection** – Inspect the hose body, reinforcement areas, steel helix sections, couplings, and fittings for signs of wear, cuts, cracks, bulging, deformation, or abrasion damage.

- **Keep Clean** – Remove accumulated mud, sand, debris, algae, and foreign materials from hose surfaces and connection points after operation.
- **Inspect End Connections** – Periodically check flanges, clamps, connectors, couplings, and fittings for looseness, corrosion, wear, or leakage.
- **Monitor Hose Wear** – Regularly evaluate inner tube condition, cover wear, reinforcement exposure, and wall thickness reduction.
- **Avoid Excessive Bending** – Prevent hose operation below the recommended minimum bend radius to reduce stress concentration and extend service life.
- **Protect Against Mechanical Damage** – Avoid dragging hoses over rough surfaces, sharp edges, metal structures, rocks, or abrasive ground conditions.
- **Store Properly** – Store hoses in a cool, dry location away from direct sunlight, ozone-producing equipment, chemicals, oils, and heat sources when not in use.
- **Monitor Operating Pressure and Vacuum** – Ensure operating pressure and vacuum conditions remain within the hose's rated specifications and avoid sudden pressure surges wherever possible.
- **Inspect Reinforcement Integrity** – Check for signs of reinforcement separation, blistering, delamination, steel helix damage, or structural deterioration.
- **Timely Replacement** – Replace worn or damaged hoses promptly to prevent operational downtime, leakage, and system failures.

Applications by Countries:

India

- Widely used in agriculture, irrigation projects, construction dewatering, municipal water supply systems, mining operations, and industrial water transfer applications.
- Commonly specified for pumping stations, infrastructure projects, and water management systems.
- Strong demand driven by agricultural expansion, infrastructure development, and industrial growth.

China

- Extensively used in irrigation systems, construction projects, industrial facilities, mining operations, and municipal water management applications.
- Preferred for reliable water suction and discharge operations.
- Strong demand from infrastructure development and industrial expansion projects.

United States

- Commonly used in construction dewatering, agriculture, municipal services, industrial facilities, and emergency water management systems.
- High emphasis on durability, flexibility, safety, and pressure performance.
- Growing demand from infrastructure rehabilitation and water management projects.

Europe

- Widely utilized in industrial facilities, agriculture, construction projects, water treatment plants, and municipal infrastructure systems.
- Strong focus on operational reliability, environmental compliance, and efficiency.
- Preferred for applications requiring long service life and dependable performance.

Middle East

- Applied in construction projects, irrigation systems, industrial facilities, desalination infrastructure, and water distribution networks.
- Designed to perform under high temperatures and demanding environmental conditions.
- Strong demand driven by infrastructure development and water management investments.

Africa

- Used in agriculture, mining operations, construction projects, water distribution systems, and industrial facilities.
- Increasing adoption due to growth in infrastructure and water management sectors.
- Preferred for durability and low maintenance requirements.

Southeast Asia

- Widely used in agriculture, aquaculture, industrial processing, construction projects, and municipal water systems.
- Strong demand driven by rapid industrialization and infrastructure development.
- Suitable for tropical climates, high humidity, and continuous operating conditions.

Australia

- Commonly utilized in agriculture, mining operations, construction projects, industrial facilities, and water transfer systems.
- Preferred for reliable suction and discharge performance under varying climatic conditions.
- Strong demand from agricultural, mining, infrastructure, and resource development sectors.

Get in touch:

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