SANDHYAFLEX

ISO 9001:2015 certified company

Dredge Delivery Rubber Hose

TECHNICAL DATASHEET

SANDHYAFLEX Dredge Delivery Rubber Hose is a heavy-duty, abrasion-resistant rubber hose system specifically engineered for the transportation of dredged slurry, sand, gravel, silt, tailings, mining waste, and other highly abrasive materials in dredging, mining, reclamation, and industrial slurry handling applications. Manufactured using high-quality natural and synthetic rubber compounds reinforced with high-strength textile cords and steel wire reinforcement, these hoses are designed to deliver exceptional performance under severe operating conditions involving continuous material flow, high pressure, and harsh environmental exposure.

Designed to ensure efficient and reliable transfer of abrasive media while minimizing downtime and maintenance costs, Sandhyaflex Dredge Delivery Rubber Hoses provide superior abrasion resistance, excellent flexibility, high pressure handling capability, and extended service life. The hoses are widely used in dredging projects, mining operations, port developments, river and canal maintenance, land reclamation projects, and industrial slurry transportation systems where durability, reliability, and operational efficiency are critical.

SANDHYAFLEX INDIA PVT LTD has established itself as a trusted manufacturer of industrial rubber products and engineered hose solutions in India. Utilizing advanced manufacturing technology, precision hose-building processes, and carefully selected raw materials, Sandhyaflex Dredge Delivery Rubber Hoses are manufactured to provide consistent quality, superior wear resistance, excellent structural integrity, and dependable long-term performance in demanding environments.

Overcoming Challenges, Delivering Excellence:

Dredging and slurry transportation operations subject hoses to extreme abrasion, high internal pressures, continuous flexing, impact loading, weather exposure, and demanding operating conditions. Conventional hose systems often experience premature wear, internal lining failure, reduced flow efficiency, leakage, and increased maintenance requirements due to the highly abrasive nature of transported materials.

To address these challenges, **SANDHYAFLEX Dredge Delivery Rubber Hoses** are manufactured using specially formulated abrasion-resistant rubber compounds combined with high-strength reinforcement layers that provide excellent resistance to wear, pressure, fatigue, and environmental degradation. The robust construction ensures reliable material flow, improved operational efficiency, reduced downtime, and extended service life even under continuous heavy-duty operation.

By delivering superior durability and dependable performance, **SANDHYAFLEX Dredge Delivery Rubber Hoses** have become the preferred choice for dredging contractors, mining companies, port authorities, infrastructure developers, marine operators, and industrial material handling professionals worldwide.

Key Features:

• Manufactured using abrasion-resistant rubber compounds

• Excellent resistance to sand, gravel, slurry, and abrasive materials

• High tensile strength and superior structural integrity

• Reinforced with high-strength textile cords and/or steel wire helix

• Excellent flexibility for easy installation and operation

• Suitable for high-pressure slurry transportation applications

• Outstanding wear, cut, and tear resistance

• Resistant to weathering, ozone, UV exposure, and moisture

• Excellent fatigue resistance under continuous operation

• Smooth internal lining for improved flow efficiency

• Available in multiple diameters, lengths, and pressure ratings

• Suitable for floating, land-based, and marine dredging operations

• Low maintenance requirements

• Cost-effective solution for abrasive material transfer

• Long service life under severe operating conditions

• Reliable performance in mining, dredging, and reclamation projects

Applications:

▪ **Dredging Operations:** Transfer of dredged slurry, sand, silt, and sediment materials.

▪ **Mining Industry:** Transportation of mineral slurry, tailings, and abrasive mining waste.

▪ **Land Reclamation Projects:** Pumping and delivery of fill material for reclamation works.

▪ **Port and Harbour Development:** Handling dredged material during maintenance and expansion projects.

▪ **River and Canal Dredging:** Removal and transportation of accumulated sediments.

▪ **Sand and Gravel Transfer:** Efficient conveyance of highly abrasive aggregates.

▪ **Industrial Slurry Handling:** Suitable for power plants, steel plants, and process industries.

▪ **Tailings Disposal Systems:** Reliable transportation of mining tailings and waste materials.

▪ **Marine Construction Projects:** Material transfer for offshore and coastal engineering works.

▪ **Pipeline Booster Stations:** Connection between dredging equipment and discharge pipelines.

▪ **Hydraulic Transportation Systems:** Conveyance of solids through slurry pumping systems.

▪ **Infrastructure Development Projects:** Large-scale earthmoving and material transportation applications.

History of Dredge Delivery Rubber Hoses:

▪ **Early 1900s** – Steel pipelines and basic rubber-lined conduits were used for slurry transportation.

▪ **1930s** – Development of reinforced rubber hose technology improved flexibility and handling.

▪ **1950s** – Natural rubber-based dredging hoses became widely adopted in marine applications.

▪ **1960s** – Textile reinforcement technology improved pressure resistance and service life.

▪ **1970s** – Abrasion-resistant rubber compounds significantly enhanced wear performance.

▪ **1980s** – Steel wire reinforced dredging hoses were introduced for higher pressure applications.

▪ **1990s** – Advanced synthetic rubber formulations improved durability and environmental resistance.

▪ **2000s** – Growth in global dredging and mining industries increased demand for engineered hose systems.

▪ **2010s** – Modern manufacturing processes improved hose strength, flexibility, and dimensional consistency.

▪ **2020s** – Advanced dredge delivery hoses continue to provide superior abrasion resistance, high-pressure capability, extended service life, and reliable performance for dredging, mining, and slurry transportation projects worldwide.

Colours and Their Applications:

For **Sandhyaflex Dredge Delivery Rubber Hoses**, colours are primarily used for product identification, pressure classification, project specifications, safety marking, inventory

management, and customer-specific requirements. The abrasion resistance, pressure handling capability, flexibility, and service life of the hose are determined by the rubber compounds, reinforcement construction, and manufacturing process rather than the colour.

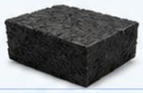
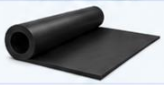
Colour	Typical Application
Black	Standard dredging, mining, slurry transfer, and industrial applications
Blue	Marine dredging projects, floating hose systems, and project identification
Red	High-pressure hose identification and safety coding
Yellow	Safety marking, inspection visibility, and site identification
Orange	Mining and heavy-duty slurry handling applications
Green	Environmental and reclamation projects requiring visual differentiation
Grey	Industrial slurry handling and customer-specific requirements
Custom Colours	Available as per customer specifications and project requirements

Materials:

The **Sandhyaflex Dredge Delivery Rubber Hose** shall be manufactured using quality natural rubber, synthetic rubber compounds, textile reinforcement fabrics, steel wire reinforcement, bonding agents, processing additives, and protective cover compounds specifically engineered to provide superior abrasion resistance, pressure resistance, flexibility, impact resistance, and long-term durability under demanding dredging and slurry transportation conditions.

The hose construction shall consist of a highly abrasion-resistant inner tube, multiple reinforcement layers, weather-resistant outer cover, and specially formulated bonding compounds designed to ensure excellent structural integrity and reliable performance throughout the service life of the hose.

RAW MATERIALS OF DREDGE DELIVERY RUBBER HOSES BY SANDHYAFLEX

S. No.	Raw Material	Image	Typical Grade / Example	Function / Purpose
1	Natural Rubber (NR)		• TSR 20 / RSS • High elasticity & abrasion resistance	• Provides excellent abrasion resistance • High tensile strength • Ensures long service life
2	Synthetic Rubber (SBR)		• SBR 1502 / 1712 • Good abrasion resistance and durability	• Improves wear resistance • Enhances cut & tear resistance • Improves overall performance
3	Textile Reinforcement (Polyester / Nylon Cord)		• Polyester / Nylon • High tensile textile cord	• Provides high tensile strength • Improves pressure resistance • Enhances hose durability
4	Steel Wire Helix		• High Tensile Steel Wire • Helical Construction	• Provides structural reinforcement • Withstands high pressure • Prevents hose collapse
5	Carbon Black		• N220 / N330 / N550 • Reinforcing Grade	• Enhances strength & durability • Improves abrasion resistance • Provides UV protection
6	Process Oils		• Aromatic / Paraffinic Oils • Process Grade	• Improves flexibility • Enhances processability • Prevents cracking
7	Additives & Chemicals (Various Type)		• Antioxidants / Anti-Ozonants • Accelerators / Activators • Bonding Agents	• Protects from ageing • Improves bonding & adhesion • Enhances overall performance
8	Cover Compound		• NR / SBR Compound • Weather Resistant Grade	• Protects hose from external damage • Resistant to weather, ozone & UV • Enhances hose appearance

MANUFACTURING PROCESS

HIGH ABRASION RESISTANCE | EXCELLENT PRESSURE CAPACITY | FLEXIBLE & DURABLE | RELIABLE PERFORMANCE | LONG SERVICE LIFE

The components shall possess excellent resistance to abrasion, sand erosion, slurry wear, pressure fluctuations, weathering, moisture, ozone exposure, UV radiation, impact loading, and harsh operating environments commonly encountered in dredging, mining, reclamation, and industrial applications.

Manufactured from carefully selected rubber compounds and reinforcement materials, **Sandhyaflex Dredge Delivery Rubber Hoses** provide reliable slurry transportation, superior wear resistance, reduced maintenance requirements, and extended operational life across a wide range of heavy-duty material handling applications.

Physical and Mechanical Properties – Sandhyaflex Dredge Delivery Rubber Hose:

S. No.	Property / Test	Requirement
1	Product Type	Dredge Delivery Rubber Hose

2	Material Composition	Natural/Synthetic Rubber Blend with Textile and/or Steel Reinforcement
3	Colour	Black / Blue / Red / Yellow / Custom Colours
4	Hose Type	Abrasion Resistant Slurry Delivery Hose
5	Shape	Cylindrical Flexible Hose
6	Surface Finish	Smooth or Wrapped Finish
7	Construction	Multi-layer Reinforced Rubber Hose
8	Inner Tube	Abrasion Resistant Natural/Synthetic Rubber
9	Reinforcement	High Tensile Textile Cord and/or Steel Wire Helix
10	Outer Cover	Weather Resistant Rubber
11	Abrasion Resistance	Excellent
12	Wear Resistance	Very High
13	Tensile Strength	High
14	Elongation at Break	High
15	Pressure Resistance	Excellent
16	Vacuum Resistance	Available Upon Requirement
17	Flexibility	Excellent
18	Kink Resistance	Good
19	Impact Resistance	High
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	Flanged, Beaded, Built-in, or Custom End Fittings
35	Service Life	Long-Term Durable Performance
36	Typical Applications	Dredging, Mining, Reclamation, Slurry Transfer and Marine Operations
37	Country of Origin	Made in India
38	Maintenance Requirement	Low

Usage Tips:

▪ Select the appropriate hose diameter, working pressure, reinforcement construction, and length based on slurry characteristics, material concentration, flow rate, discharge distance, and operating conditions.

▪ Ensure compatibility between the dredge delivery hose, pumps, pipelines, floating systems, couplings, and associated equipment before installation.

▪ Verify that the hose pressure rating, abrasion resistance level, and reinforcement design meet project specifications and operational requirements.

▪ Inspect hoses, flanges, couplings, gaskets, and fastening components before installation for damage, deformation, cuts, cracks, or manufacturing defects.

▪ Ensure proper alignment and secure connection of hose assemblies to minimize stress concentration and prevent leakage during operation.

▪ Use recommended couplings, gaskets, clamps, bolts, and installation procedures specified by the equipment manufacturer and project engineer.

▪ 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 appropriate lifting equipment and approved operating procedures.

▪ Follow applicable dredging, mining, marine, industrial safety standards, and project-specific operating guidelines throughout installation and operation.

Maintenance and Care:

Maintaining **Sandhyaflex Dredge Delivery Rubber Hoses** ensures maximum operational efficiency, extended service life, and reliable slurry transportation performance.

▪ **Regular Inspection -** Inspect the hose body, reinforcement areas, couplings, flanges, and end fittings for signs of wear, cuts, cracks, bulging, deformation, or abrasion damage.

▪ **Keep Clean -** Remove accumulated slurry deposits, sand, mud, and foreign materials from hose surfaces and connection points after operation.

▪ **Inspect End Connections -** Periodically check flanges, bolts, clamps, couplings, and gaskets for looseness, corrosion, wear, or leakage.

▪ **Monitor Hose Wear -** Regularly evaluate inner tube wear, cover abrasion, reinforcement exposure, and wall thickness reduction. Replace hoses approaching wear limits.

▪ **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, rocks, steel structures, 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 -** Ensure operating pressure remains within the hose's rated working pressure and avoid sudden pressure surges wherever possible.

▪ **Inspect Reinforcement Integrity -** Check for signs of reinforcement separation, blistering, delamination, 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 river dredging, port maintenance, mining operations, ash handling systems, and land reclamation projects.

▪ Commonly specified for major infrastructure, marine construction, and industrial slurry transportation applications.

▪ Strong demand driven by port expansion, inland waterway development, mining activities, and coastal infrastructure projects.

China

▪ Extensively used in large-scale dredging projects, port development, mining operations, and coastal reclamation works.

▪ Preferred for high-capacity slurry transportation and heavy-duty material handling.

▪ Strong demand from infrastructure development, maritime engineering, and industrial expansion projects.

United States

▪ Commonly used in dredging, mining, aggregate transportation, tailings management, and industrial slurry handling applications.

▪ High emphasis on abrasion resistance, pressure performance, safety, and operational reliability.

▪ Growing demand from infrastructure rehabilitation, waterway maintenance, and mining operations.

Europe

▪ Widely utilized in marine engineering, dredging operations, quarrying, mining, and environmental remediation projects.

▪ Strong focus on durability, environmental compliance, and operational efficiency.

▪ Preferred for applications requiring long service life and reliable performance.

Middle East

▪ Applied in port expansion projects, coastal protection works, desalination infrastructure, and industrial slurry transportation.

▪ Designed to perform under high temperatures, abrasive operating conditions, and demanding environments.

▪ Strong demand driven by infrastructure development, marine construction, and industrial growth.

Africa

▪ Used in mining operations, mineral processing plants, dredging projects, and infrastructure development works.

▪ Increasing adoption due to growth in mining, transportation, and water management sectors.

▪ Preferred for rugged performance, durability, and low maintenance requirements.

Southeast Asia

▪ Widely used in port dredging, coastal development, river maintenance, mining projects, and land reclamation operations.

▪ Strong demand driven by rapid industrialization, maritime trade growth, and infrastructure development.

▪ Suitable for tropical climates, high humidity, and continuous operating conditions.

Australia

▪ Commonly utilized in mining operations, tailings transportation systems, port maintenance dredging, and marine engineering projects.

▪ Preferred for handling highly abrasive mineral slurries and heavy-duty industrial applications.

▪ Strong demand from mining, resource extraction, infrastructure development, and environmental management sectors.

Get in touch:

Address : 5-24-1223/5/1, Ambedkar Nagar, Gajularamaram, Quatubulapur, R. R. Dist, Hyderabad, Telangana - 500055, India

PhoneNo : *(+91) 9652998932*
(+91) 6304766851
(+91) 8688537041
(+91) 9392275616
(+91)9550921831
(+91) 8919488523
(+91)8074580219
Email : info@sandhyaflex.com

Website: https://www.sandhyaflex.com