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FCP TIMES

A MONTHLY NEWS LETTER FOR FLUID CONVEYANCE PRODUCTS INDUSTRY

Major Infrastructure development companies in India

Infrastructure sector is a key driver for the Indian economy. The sector is highly responsible for propelling India's overall development and enjoys intense focus from Government for initiating policies that would ensure time-bound creation of world class infrastructure in the country. Infrastructure sector includes power, bridges, dams, roads, ports, Metro, mining, Irrigation and urban infrastructure development. In other words, the infrastructure sector acts as a catalyst for India's economic growth. There are large number of companies which are engaged in development of Infrastructure projects in India. These companies possess fleet of heavy Earth Moving Machines like Excavators, Graders, Wheel Loaders, Dumpers, Dozers and Backhoe Loaders. These Infrastructure development companies are key customers not only for the hydraulic Hose assemblies but also for the Industrial hoses like Air-Drill, Rock Drill, pneumatic, Air/Water, Slurry hoses. Please find below list of major Infrastructure companies in India.

Larsen & Toubro Limited

Founded	1946
Address	Mumbai, India
Services	Real Estate/Technology/Engineering/ Construction/Manufacturing/Operation and Maintenance
Sectors	Civil/ Industrial /Commercial/ Energy/ Technology
Major Projects	Riyadh Metro/ Hyderabad Metro/ Mumbai International Airport

Larsen & Toubro, popularly known as L&T, is India's largest construction company with a strong presence in over 50 countries. The MNC is engaged in EPC Projects, Hi-Tech Manufacturing, and Services. It operates in over 50 countries worldwide.

Tata Projects Limited

Founded	1979
Address	Mumbai, India
Services	Turnkey Solution/Civil Engineering/ Construction/Urban Infrastructure/
Sectors	Oil & Gas/ Space and Nuclear/Metal & Mineral / Power
Major Projects	New Parliament Building, India/ Noida Smart City/Mumbai Trans Harbour Link

Tata Projects Limited is one of the biggest construction companies in India and a part of the Tata Group, one of India's largest business conglomerates. The company, one of the best EPC contractors in India, has a diverse portfolio that includes power, water, urban infrastructure, industrial infrastructure, and oil and gas sectors. Tata Projects has a proven track record of executing some of the most notable projects, such as the Mumbai Metro Line 3 and the Delhi-Meerut Expressway.

Shapoorji Pallonji and Company Limited

Founded	1865
Address	Mumbai, India
Services	Engineering/Construction
Sectors	Civil/Industrial/Commercial
Major Projects	Reserve Bank of India, Mumbai/Bombay Stock Exchange, Mumbai/Taj Intercontinental Hotel, Mumbai/ Ebene Cyber City, Mauritius

Shapoorji Pallonji and Company Limited (SPCL) is one of the oldest and most reputed construction companies in India, with a history of over 150 years. Being one of the mega Indian infrastructure companies, SPCL has a diverse portfolio that includes construction, real estate, and infrastructure development. SPCL has executed some of the most

Hindustan Construction Company Limited

Founded	1926
Address	Mumbai, India
Services	Civil Engineering/Modular Construction/Turnkey Construction/Tunnelling
Sectors	Civil/Industrial/Commercial
Major Projects	Chamera Hydro Power Project Stage I, HP/ Kolkata Metro, West Bengal, Mumbai-Pune Expressway, Maharashtra/ Pir Panjal Tunnel, Jammu & Kashmir

Hindustan Construction Company Limited (HCC) is ranked as one of the top Indian civil engineering companies, with a history of over 90 years. The company's diverse portfolio includes infrastructure development, water supply, and renewable energy. HCC has executed some of the most significant infrastructure and real estate projects in India, such as the Bandra Worli Sea Link and the Mumbai Metro Rail.

IRCON International Limited

Founded	1976
Address	New Delhi, India
Services	Civil Engineering/Modular Construction/Turnkey Construction/Tunnelling
Sectors	Railways/Highways/Signalling/Telecom/Aviation
Major Projects	250 KM/PH High-Speed Railway (HSR) Line/ Shivpuri Guna Highway/New Rail Coach Factory, Raebareli

IRCON International Limited is a leading construction company in India and a subsidiary of the Indian Railways. The company has a diverse portfolio that includes railway construction, highways, and urban infrastructure. IRCON has executed some of the most significant railway and infrastructure projects in India and overseas, such as the Tehran-Mashhad railway in Iran and the Chardham highway project in India.

Gammon India Limited

Founded	1922
Address	Mumbai, India
Services	Civil Engineering/Design/Construction
Sectors	Civil/Industrial/Power
Major Projects	Sharjah International Airport Terminal/Cable Stayed Bridge, Sikkim/500 MW Thermal Power Station, Trombay

Gammon India Limited is one of the oldest and most reputed construction companies in India, with a history of over 100 years. With over 4,000 employees, Gammon ranks as one of the best Indian civil engineering companies

Megha Engineering & Infrastructures Limited

Founded	1989
Address	Hyderabad, India
Services	Civil Engineering/Power Distributions Network/ Engineering Solutions
Sectors	Irrigation/Power/Hydrocarbon/Transportation/ Civil Infrastructure
Major Projects	Solar Project, Anantapur/Godavari Drinking Water Supply Scheme Projects/WUPPTCL Project, Uttar Pradesh

Megha Engineering & Infrastructures Limited, or MEIL, is a diverse industrial conglomerate established in 1989. It is a fast-growing global scale company that has completed many classic landmark projects featuring the changes of the times and commemorating economic and cultural development. It has also built many major infrastructure projects across the globe to improve people's livelihoods.

KEC International Limited

Founded	1945
Address	Mumbai, India
Services	Turnkey Solutions/Tower Testing/Engineering Design/Manufacturing
Sectors	Civil/Industrial/Commercial
Major Projects	Central Dresden Power Plant/The Mercedes-Benz World in Stuttgart/Ting Kau Bridge in Hong Kong

Gammon India Limited is one of the oldest and most reputed construction companies in India, with a history of over 100 years. With over 4,000 employees, Gammon ranks as one of the best Indian civil engineering companies

Simplex Infrastructures Limited

Founded	1924
Address	Kolkata, India
Services	Civil Engineering/Modular Construction/Design
Sectors	Transport/Energy & Power/Mining/Marine
Major Projects	State Assembly & High Court Building, Imphal, India/Reliance Refinery Complex, Jamnagar, Gujarat/Goa Shipyard

Simplex Infrastructures Ltd. is a major road, highway, and civil infrastructure company in India. Established in 1924, the company operates across several sectors like Transport, Energy & Power, Mining, Buildings, Marine, Real Estate, etc. Lately, the company has diversified its portfolio to include real estate and engineering services. Simplex Infrastructures has executed some of the most significant infrastructure and real estate projects in India, such as the Kolkata Metro Rail and the NHPC Subansiri Lower Hydroelectric Project.

GMR Group

Founded	1978
Address	Mumbai, India
Services	Civil Engineering/Modular Construction/Turnkey Construction/Operation and Maintenance
Sectors	Urban Infrastructure/Energy/Airports/Sports
Major Projects	Mactan Cebu International Airport, Philippines/ Indira Gandhi International Airport, Delhi/GMR Goa International Airport, Goa/Hyderabad - Vijayawada NH-9

GMR Group is a leading infrastructure company in India, with a diverse portfolio that includes airports, energy, highways, and urban infrastructure. GMR Group has executed some of the most significant infrastructure projects in India, such as the IGI Airport in Delhi and RGI Airport in Hyderabad, It has built the Rajiv Gandhi International Cricket Stadium as part of its sports infrastructure portfolio.

Some other notable EPC companies in India:

Here is some other notable civil engineering, real estate, road & highway infrastructure companies that make up the top 20 infrastructure companies in India

- Punj Lloyd Ltd.
- Reliance Infrastructure Ltd.
- Dilip Buildcon Ltd.
- NCC Ltd.
- Ashoka Buildcon Ltd.
- Lodha Group
- Afcons Infrastructure Ltd.
- DLF Ltd.
- JP Associates Ltd.
- JMC Projects

What Is the Difference Between Tubes, Pipes and Hoses?

Tubes, pipes, and hoses are easy to confuse. And for understandable reasons. After all, they all carry material from point A to point B. Is there really a difference? There are subtle, but important, differences between these products. The sooner you understand how each differs, the easier it will be to spot the right product for your piping system.

Is There a Difference Between Tubes, Pipes, and Hoses?

Even though the terms are often wrongly used interchangeably, there are features that set tubes, pipes, and hoses apart. There are three broad difference between hoses, tubes, and pipes:

- Applications and standards
- Sizing terminology
- Material makeup and manufacturing process

Different Applications and Standards for Tube, Pipes, and Hoses

The first, and most obvious, difference between tubes, pipes, and hoses is how they're used and regulated. Here are the subtle differences between each product:

Tubes: Tubes are used for structural applications. That means they don't have to be cylindrical. They come in squares, rectangles, and even custom shapes. Depending on the application, tubing material follows specific standards set by various organizations, including the International Organization for Standardization (ISO) and ASTM International (ASTM) around the globe.

Pipes: While tubes are used for structural purposes, pipes carry fluids or gases in pipe systems. Pipes follow generally accepted standards set by organizations such as American Society of Mechanical Engineers (ASME). Standards include B36.10M and B36.19M, which provide reference tables concerning the different manufacturing parameters to which pipe needs to adhere.

Hoses: Hoses are the jack of all trades. They can be the stopgap in a wide range of situations. While tubes and pipes have fairly specific uses, hoses have a multitude of applications and follow a wide range of standards. They also are made up of different materials from tubes and pipes.

Hoses are typically flexible, made of nylon, rubbers, and other non-metal-based materials, and are not used for pipeline applications. The most common situations where you see hoses applications include:

- Air
- Water
- Hydraulic fluids
- Other liquid (i.e., brake fluids, fuel for a vehicle)

Different Sizing Terminology

Another way tubes, pipes, and hoses are different has to do with sizing terms and how each is measured. Here's how they differ:

Tube size: A tube's measurements are determined by three important dimensions. They're measured by outside diameter (OD), inside diameter (ID), and wall thickness (WT) schedule.

Pipe size: A pipe's measurements is more complex than tube sizes. While tube size is measured by the exact outside diameter and wall thickness, you measure pipes with wall thickness and nominal pipe diameter.

What is nominal pipe diameter?

Nominal pipe diameter, or Nominal Pipe Size (NPS), refers to pipe sizes in non-specific terms. For instance, a three-inch stainless-steel pipe is not exactly three inches in outside diameter, as you would find with three-inch steel tubing. Instead, its size is determined by a separate set of standards.

The process of formalizing pipe sizing dates back to the early 20th century and has gone through many revisions based on American Petroleum Institute (API), ASTM, American National Standards Institute (ANSI), and other organizations.

Hose size: A hose's measurements are influenced by inside diameter (ID). Hoses also leverage something called a dash system. This dash size is a reference to the diameter of the hose in 1/16" increments.

10 Reasons of hydraulic hose failure?

Hydraulic hoses are essential components in many industrial and commercial applications but they can be dangerous if improperly handled. Hydraulic hose failure is one of the most common causes of workplace accidents and injuries, making it important to understand the answer to "why do hydraulic hoses fail?" With proper maintenance and safety protocols in place, you'll be able to reduce downtime due to failed hoses as well as protect operators from serious harm.

Please find below list of 10 reasons of failure of Hose Assemblies:

Abrasion:
Abrasion is a common issue on the job site. Hoses are exposed to wear and tear due to rough conditions during their useful life. As such, they may become worn down over time leading to cracks in the rubber material or even holes in the outer casing. This type of damage can occur due to a variety of factors, including contact with other objects, exposure to harsh chemicals or extreme temperatures, and even physical trauma from an outside force. Extended abrasion can eventually cause hydraulic hoses to fail, leading to serious accidents or injuries.

Incompatible Fluid:
When a hose is used with a fluid that is too thick or viscous for it, this can lead to excessive wear and tear as well as catastrophic rupture. It's important to make sure that all hoses are compatible with the fluids used in order to prevent premature failure.

Twisting:
When hoses are twisted during installation, it can lead to kinks and weakened spots in the hose material. Eventually, this state causes the hose to fail under pressure. This type of damage can be difficult to spot until it's too late, so it's important to take steps toward prevention of the issue occurring in the first place.

Defective Hose:
Hoses that are poorly designed or manufactured are more prone to damage, leading to serious harm. This type of damage is particularly hazardous as it can occur without any warning signs or symptoms.

End Fitting Issues:
End Fittings are critical component of a hydraulic hose, connecting two pieces together and allowing for the transfer of fluid. If the couplings are incorrectly installed or worn out, it can lead to a number of issues including:

- Leaks
- Reduced system pressure and efficiency
- Hose bursts under pressure

Operating Conditions:
When the temperature or pressure of a hose exceeds its design limits, it can cause the rubber material to become brittle and crack. The same is true for hoses exposed to sudden drops in temperature; these components are particularly susceptible to thermal shock which can also lead to rupture.

Bending at Multiple locations:
One of the most dangerous causes of hydraulic hose failure is when hoses are bent in multiple locations along their length. This can occur due to improper installation or routing which weakens the hose material as well as increases operating pressure.

Poor Workmanship:
Issues with poor workmanship can include:

- Incorrect routing
- Exceeding the minimum bend radius for a given hose
- Twisting during installation
- Not properly securing couplings or connections

Old Age:
As hoses are exposed to the elements and are subjected to repeated stress on rough ground or via heavy site traffic throughout their useful life, they can become brittle and crack.

Contamination:
Hydraulic hose failure due to contamination is one of the most overlooked causes of workplace accidents and injuries. Contamination can occur in various ways:

- Foreign materials entering the system through improper installation or lack of hose cleaning prior to installation
- Improper maintenance

North East India Mega Projects 2024: Propelling North East India to New Heights

Modern infrastructure is being constructed to improve connectivity between the North-Eastern states and the rest of India, as North-East India has the potential to lead the nation's development. The nations of Northeast India have historically served as a point of contact for the nation's long-standing cultural ties to East Asia, and they will likely continue to be crucial in advancing trade, travel, and tourism there in the future.

In this article, we will cover all the future upcoming mega projects from the 8 States of North East India like Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Meghalaya, and Sikkim.

Arunachal Frontier Highway: The government of Arunachal Pradesh intends to construct a 1748 km route. Also known as Arunachal Frontier Highway. It will be built near the border between China, Tibet, India, and Myanmar. The distance between it and the international borders and the Line of Actual Control (LAC) will be only 20 km. This project will start in FY 2024–2025, and construction will be finished within the next two years.

Sela Tunnel (Arunachal Pradesh): Sela Tunnel will be the largest double-lane tunnel in the world Built at an elevation of more than 13,000 feet. Under the project, Tunnel 1 and Tunnel 2 two tunnels that will connect Tawang and West Kameng are being constructed. There is a 1,555-metre twin tube channel under preparation. The length of the second tunnel is 980 metres. As part of the project, two roads (7 km and 1.3 km) will also be constructed.

Guwahati Metro: The Guwahati Metro is a 61.40 km with 4 lines and 54 stations urban mass rapid transit system (MRTS) that is planned to be constructed in Guwahati, Assam.Proposed Four corridors will be Corridor-1: Dharapur– Narangi (Elevated), Corridor-2: M. G. Road to Khanapara (Underground), Corridor-3:Jalukbari to Khanapara (Elevated), Corridor-4: ISBT to Paltan Bazar (Elevated).

Noney Bridge (Manipur): Noney Bridge is a part of the 111-kilometer Jiribam-Imphal railway project. There will be strong connectivity to the Northeast due to this railway line. Imphal will be connected to the nation's broad-gauge network through this project. This will be the world's highest railway bridge. The height of this bridge will be 141 meters. It's a world record, this. At 139 meters, the record held by the Mala-Rijeka Viaduct in Montenegro will be surpassed by this bridge. This bridge will cost approximately Rs 374 crore to complete.

Brahamaputra Expressway: The Assam government has announced plans to begin construction of a 890 km expressway that will run the entire length of the Brahmaputra in the state, from Sadiya in the east to Dhubri in the west. This will improve the Brahmaputra River's two banks and, as a result, lessen the issue of erosion brought on by the river. The work's survey has already commenced. The silt dug out by the dredging of the river will be utilised for the construction of the road.

Sivok–Rangpo Rail Link (Sikkim): The 45-kilometer Sivok-Rangpo Railway Project has five stations on this route. Additionally, Teesta Bazar in Bengal has an underground station for it. It is made up of five stations, 14 tunnels, 22 bridges, and an underground station in Teesta Bazar, West Bengal. The entire project will travel through tunnels for about 38 kilometres.

North East Capital Rail Connect: The Northeast Frontier Railway (NFR) will invest more than Rs 95,261 crore In order to complete 21 projects. Among these projects is the construction of a bridge that will connect the capitals of Nagaland by 2026 and the three north-eastern states of Manipur, Mizoram, and Meghalaya by 2024.The major cities of Assam, Guwahati (near the capital Dispur), Agartala (near the capital Tripura), and Naharlagun (near the capital Itanagar) of Arunachal Pradesh are already connected by rail.

Palasbari – Sualkuchi Bridge: In Assam, the bridge that will be constructed on Brahmaputra River will connect Sualkuchi and Palasbari. An approximate of Rs 4000 crore is the estimated cost.

Kaladan Multimodal transit project (Mizoram) : The Kaladan Multi Modal Transit Transport Project is a route that runs from Kolkata to Myanmar and then from Myanmar to Mizoram. This covers the land, river, and sea routes. the waterway that travels from Kolkata Port to Sittwe Port in Myanmar; it then continues via the Kaladan River and the road that links Mizoram with Myanmar. Once the Kaladan project is finished, there will be an alternate way to get to the northeast. This project consists of 33 bridges in total, 8 of which are being constructed in India.

Guwahati Airport New Terminal : The Airport Authority of India has planned to develop Lokpriya Gopinath Bordoloi International Airport in Guwahati with a new terminal building. This building will cost Rs 1232 crore to construct. This is the biggest and busiest airport in Northeast India. Currently, this airport handles 60 lakh passenger passes annually. The new terminal building will be finished, increasing its capacity to one crore passengers per year. From this airport, 4300 domestic and 200 international flights can be operated with ease.

Mega projects in the Northeast of India will show a significant change in the socio-economic environment of the region. These ambitious projects have the potential to increase economic growth, enhance inclusive growth and this will fulfil infrastructure gaps. With boosting connectivity, the untapped potential of the region will be explored. This will open new opportunities for skill development, employment generation and general prosperity.

NMDC Allocates ₹50,000 Crore for Capex to Double Iron Ore Production by 2030-31.

NMDC, India's largest iron-ore miner, has earmarked a ₹50,000-crore capital expenditure to double its production to nearly 100 million tonnes (MT) over the next five to six years. The investment will focus on mine enhancement, including deeper drilling permissions, new mine bids and acquisitions, addition of equipment, setting up slurry pipelines, and expanding other allied facilities.

Currently, NMDC operates mines in Chhattisgarh and Karnataka. In FY24, the company's iron-ore production exceeded 45 MT, with a projection to increase by 11 percent to 50 mt in FY25. By FY26, NMDC aims for an additional 8 percent rise to 54 mt.

Technical Workshop held in Pune by FCP Index

The one-week-long technical workshop on hoses, fittings, and hose assemblies, organized by FCP Index in Pune, concluded on May 4th, 2024. A diverse group of 11 participants from 6 different companies across India engaged in this highly interactive session. Led by experienced trainers Mr. Ambarish Chatterjee and Mr. Anoop Pillai, the workshop delved into a variety of topics including hose standards, fittings standards, hose selection, future hose standards, and other relevant subjects. The workshop structure allocated 2 days specifically for practical training, focusing on the crucial "9 C" concept for making hose assemblies, identification of threads, and familiarization with various gauges and instruments. Participants also received hands-on experience with crimping machines and skiving machines, gaining practical skills essential for their professional roles.

Reflecting on the experience, Mr. Abhinav Ghosh of Shiraj Enterprises expressed appreciation for the comprehensive learning opportunity provided. He highlighted the blend of theoretical and practical training, emphasizing its significant value in enhancing their professional capabilities and contributing to their effectiveness in the workplace. Next Technical Workshop is planned from Aug 17th to Aug 24th 2024 in Pune.

JSW Cement launches production unit in Rajasthan's Nagaur, first in North India

JSW Cement Ltd recently announced that it will establish a new cement production site in Nagaur, Rajasthan, which will be company's first unit in the northern part of the country. Initially a 3.3mn cement production capacity unit will eventually scale to 15mn over time.

Mr. Parth Jindal of JSW in the opening ceremony of Cement Plant

JSW Cement has a capacity of 19 million tonnes per annum in India as of September last year. It plans to add 2 million tonnes during this calendar year (2023) with a medium-term plan of achieving 60 million tonnes capacity in the next 5 years. During this period, the company is expected to make significant investments in various interventions to reduce its carbon emissions.

COMMODITY INDEX

Months	Alloy Steel - Forging (20 MnCr5) Rs/ Tonne	Alloy Steel - Forging (EN8) Rs/ Tonne	Nickel US $/ Tonne	Zinc US $/ Tonne	Synthetic Rubber SBR	EPDM- Rs. Per Kg	Carbon Black- Rs. Per Kg
May-23	75500	74500	22229	2477	177	255	119
Jun-23	72800	71800	21193	2368	162	246	115
Jul-23	70500	69500	20862	2389	140	234	106
Aug-23	69000	68000	20548	2410	141	229	118
Sep-23	69400	68400	19629	2488	146	228	123
Oct-23	71000	70000	18275.7	2450	160.11	232.5	116.19
Nov-23	69250	68250	16894	2541	165.92	233.27	115.5
Dec-23	70600	69600	16388.7	2501.7	159.07	228.83	115.73
Jan-24	71000	70000	16091.4	2521.5	157.92	223.04	116.32
Feb-24	70750	69750	16307.6	2364.5	160.64	223.32	116.1
Mar-24	70400	69400	17432.8	2462.4	164.19	224.38	115.15
Apr-24	70000	69000	18172	2730.4	173.34	224.13	111.98

BACKHOE LOADERS SALES IN INDIA- 2024

Month	JCB	Excorts	Mahindra	Case	Tata Hitachi	Bull Machines	Bobcat	CAT	Manitou	ACE	Total 2024	Total 2023
Jan	4576	16	81	137	92	59	35	69	35	48	5148	4705
Feb	3610	57	86	133	117	31	54	108	39	35	4270	3938
Mar	4030	77	114	196	171	24	60	167	42	35	4916	4100
Apr	2648	26	75	143	60	24	63	82	24	25	3170	3220

COMPACTORS SALES IN INDIA -2024

Month	Case	HAMM	Dynapac	JCB	L & T	Excorts	Volvo	AMMAN	Others	Total 2024	Total 2023
Jan	101	98	36	61	47	15	25	10	17	410	450
Feb	127	122	55	64	44	32	25	12	9	490	366
Mar	213	153	65	73	64	44	42	15	30	699	505
Apr	103	113	52	69	49	21	24	7	12	450	352

EXCAVATORS SALES IN INDIA- 2024

Month	Tata Hitachi	JCB	Hyundai	Sany	Kobelco	CAT	Komatsu	Volvo	Liugong	XCMG	CNH	Total 2024	Total 2023
Jan	614	561	680	510	166	123	140	82	32	207	8	3123	2658
Feb	661	557	531	405	169	130	169	76	36	229	6	2969	2505
Mar	819	580	537	514	232	156	186	97	142	209	6	3478	3159
Apr	412	488	450	357	95	102	175	86	60	203	6	2434	2362

TRACTORS SALES IN INDIA- 2024

Month	Mahindra Group	TAFE Group	Sonalika	Escorts Ltd	John Deere	New Holland	Kubota	Captain	VST	Others	2024	2023
Jan	36930	11003	11515	8185	5739	3501	1732	921	483	2436	82445	65635
Feb	31590	8307	9841	7449	5906	3016	1735	498	341	2577	71260	69034
Mar	24274	10878	8682	8054	5523	3062	1301	482	475	1022	63753	82450
Apr	35805	13005	9649	7168	5779	2867	1324	200	208	940	76945	79481

Source : *Industry Inputs*

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