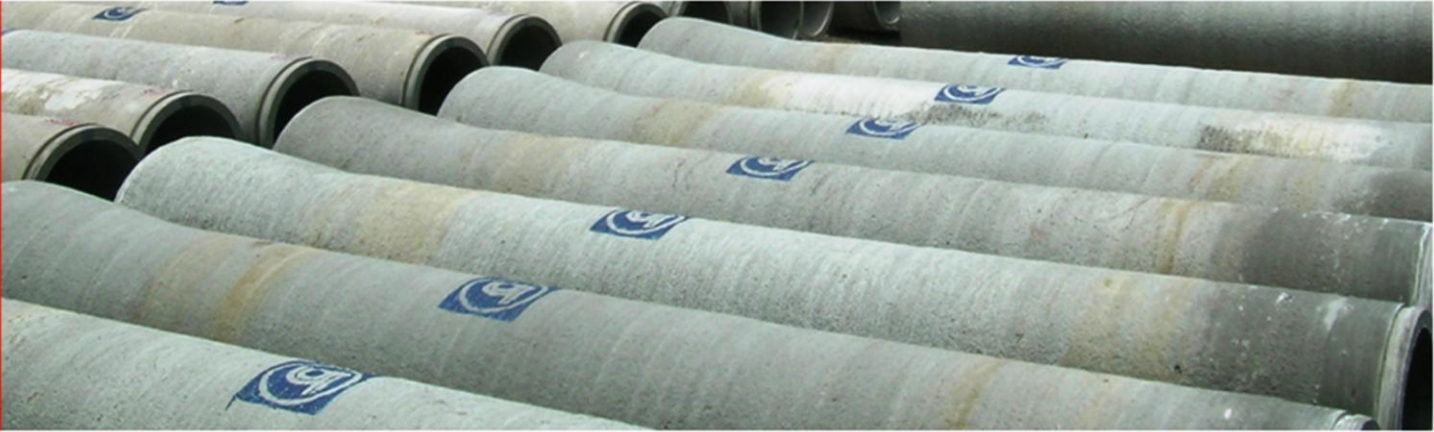




The Indian Hume Pipe Co. Ltd.

Company Profile

Concrete Pipes



Turnkey Projects



Hydro Power Piping





The Indian Hume Pipe Co. Ltd.

PROFILE

1. OUR FOUNDER

Late Seth. Walchand Hirachand was among the prominent men, who took the initiative to build a modern India and regarded as one of the pioneering architects of modern Industrial India. He formed many Companies like Hindustan Construction Company, Scindia Steam Navigation Company, Hindustan Shipyard Limited, Hindustan Aircrafts Limited, The Premier Automobiles Limited, The Ravalgaon Sugar Farm Limited and Walchandnagar Industries Limited. Hindustan Shipyard Limited & Hindustan Aircrafts Limited both company's were nationalised after independence.

In the year 1926, he formed "The Indian Hume Pipe Co. Ltd." with collaboration of HUMES (Australia) for the manufacture of Reinforced Cement Concrete Pipes and the Company has never had any occasion to look back.

2. ABOUT US:

The Indian Hume Pipe Co. Ltd. (IHP) was established in **1926** with the object of manufacturing, popularizing and marketing Hume Pipes and allied products. Over a period of time the company has developed Prestressed Concrete Pipes (Non-Cylinder), Prestressed Concrete Cylinder Pipes, Bar Wrapped Steel Cylinder Pipes, Hume Steel Pipes, Welded Steel Penstocks, Prestressed Concrete Railway Sleepers and specialized in execution of Turnkey Water Supply and Sewerage Projects.

Today the Company has wide network of over **twenty factories and over 100 projects under execution** in India. The Company has earned a reputation for excellence through employing modern technology, stringent quality control measures, timely execution and continuous Research and Development. As a result the company's products have found acceptance in highly competitive markets. The company's Expertise is at work right from designing of custom made pipes to the company's total engineering packages for pipeline projects.

The Company is actively involved in the strengthening of the nation's infrastructure in varied fields viz. Water Supply, Irrigation, Drainage, Power Generation and Rail transport by executing numerous turnkey pipeline projects for Water Supply, Sewerage and Hydroelectric Power Generation and supplying millions of Concrete Sleepers for the track modernization of Railways in India. IHP has also executed projects in neighboring countries like Nepal, Srilanka, Burma, Malaysia and Republic of Iraq.

As pioneers with a modest beginning Eight decades ago, today the company is acknowledged as leader of the industry with an unbeatable track record of introducing the following products in India.

| PRODUCTS | YEAR OF INCEPTION |
|---|--------------------------|
| Reinforced Cement Concrete Pipe | 1926 |
| Welded Steel Pipe | 1932 |
| Steel Penstocks | 1937 |
| Prestressed Concrete Pipe (Non Cylinder) | 1957 |
| Prestressed Concrete Monoblock Sleeper | 1970 |
| Bar Wrapped Steel Cylinder (BWSC) Pipe | 1998 |
| Prestressed Concrete Cylinder (PCCP) Pipe | 2003 |

3. RESEARCH AND DEVELOPMENT DIVISION

IHP's R&D Division is recognized from 1975 by the **Ministry of Science and Technology** and **The Department of Scientific & Industrial Research** (Government of India). It is the endeavor of R&D to develop new products and better methods of manufacture and installation of pipelines. R&D with constant feed back from the sites and factories continually works to improve the quality and value of the products and installation. In addition to the above, R&D is involved in the design and engineering of water supply and sewerage schemes.

4. OUR ACHIEVEMENTS IN INDIA

During the last Eight decades, we have completed number of Prestigious Projects In India under various Departments, details of which are given below:

| Sr.No | Particulars | No of Projects completed | Total length |
|--------------|---|---------------------------------|---------------------|
| 1 | Supply & laying of Prestressed Concrete Pipes. | 700 | 7,279. 00 KMS. |
| 2 | Supply & laying of Hume Steel Pipes | 432 | 2,111. 32 KMS. |
| 3 | Supply & laying of Bar Wrapped Steel Cylinder Pipes | 60 | 538.34 KMS. |
| 4 | Supply and laying of PCCP Pipes | 2 | 8. 95 KMS. |
| 5 | Supply & laying of Penstock Pipes | 51 | 1.35,195.00 MT |
| 6 | Supply of Prestressed Concrete Railway Sleepers | | 31,51,250 NOS |

6. ALL INDIA NETWORK OF MANUFACTURING UNITS

For catering the needs of above products, we have twenty units spread all over India. Our manufacturing plants are equipped with all the required quality control and laboratory equipments and facilities to produce products in accordance with the relevant Indian Standards Specifications. Most of the units are having BIS Licence and ISO Certifications.

In case of substantial order for any of the products, IHP can establish local manufacturing units near to the site.

7. PROJECTS

We have completed and in hand number of prestigious turnkey projects involving various components such as Intake Wells Electrical Transmission Lines, Pumping Stations with Pumping Machinerries, Water Treatment Plants, Water Transmission Mains, Ground Level Reservoirs, Elevated Service Reservoirs along with supplying, laying, jointing, testing, commissioning of various pipe materials along with allied civil works.

8. OUR MAJOR ACHIEVEMENTS IN INDIA

Major civil work items, E&M components executed / under execution.

| Sr. No. | Item | Capacity | Name of the Project |
|---------|----------------------------------|--|---|
| 1 | Electrical Transmission Line | 11 KVA /33 KV = 10 KMs length | Mahabhoobnagar WSS, Andhra Pradesh |
| 2 | Intake Well / Pump House/Pumps | 12.00Mtr. Dia. 40.00 Mtrs. Height, 540 HP Motor, 377 Litres Per Second V.T. Pumpsets x 734 M Head. | Anantpur WSS EPC, Andhra Pradesh. |
| 3 | Full Scale Water Treatment Plant | 61.00 MLD | Anantpur WSS EPC, Andhra Pradesh. |
| 4 | GLSR | 70.00 LL | JC Nagi Redi WSS Ph.II,, Andhra Pradesh |
| 5 | ELSR | 20.00 LL x 12 Mtr. staging height | Thoothukudi WSIS, Tamilnadu. |

9. MANUFACTURING CAPACITY – PSC/PCC/BWSC PIPES FROM SINGLE UNIT PER MONTH.

| Sr. No. | Diameter range | PSC/ PCCP Pipes | BWSC Pipe |
|---------|----------------------|------------------|------------------|
| 1 | Upto 800 mm dia. | 3.00 to 5.00 KMs | 6.00 to 8.00 KMs |
| 2 | 900 to 1200 mm dia. | 2.00 to 3.00 KMs | 5.00 to 6.50 KMs |
| 3 | 1300 to 1600 mm dia. | 1.50 to 2.00 KMs | 4.00 to 5.00 KMs |
| 4 | 1800 to 2000 mm dia. | 1.20 KMs | |

10. OUR ACHIEVEMENTS ABROAD

The Company is also experienced in manufacturing and supplying pipes abroad and had attained outstanding performance in manufacture of large diameter Concrete pipes for Baghdad Storm Water Drainage. The Company has supplied technical know how for manufacture of PSC Monoblock Railway Sleepers at Samawa for the New Railway Implementation Authority, Iraq. The Company has also supplied technical services & operational expertise for operating a Concrete Sleeper plant at Abu Ghraib, Iraq.

IHP was also on the Consulting Panel of WAPCOS and has supplied technical consultancy services and professional expertise to Rangoon Water Supply Scheme, Burma.

11. FINANCIAL PERFORMANCE.

Our turnover during the year 2015-2016 was Rs. 942 Crores. It is noteworthy to mention that Company has continuously paid dividend to its shareholders right from inception.

The Company's Equity Shares are listed on Bombay Stock Exchange Ltd (BSE), & National Stock Exchange of India Ltd (NSE)

12. MEMBERSHIP OF VARIOUS INSTITUTIONS

- Bureau of Indian Standards
- Indian Water Works Association
- American Concrete Pipe Association
- International Pre cast Concrete Manufacturers Association (BIBM)
- Indian Concrete Institute.

13. OUR PRODUCTS

13.1 PRESTRESSED CONCRETE NON CYLINDER PIPES (PSC)

Prestressed Concrete pipes were introduced in India by IHP in the year 1957. It is universally accepted fact that PSC pipe is an ideal pipe material for water supply and drainage. These pipes can be designed for external load much more than NP4 class loading.

These pipes are made as per Indian Standard IS: 784: 2001. Till date the company has laid more than 7000 Kms of pipelines, most of which are giving satisfactory service as on today.



PSC pipes are the best choice for:

- Pressure main for water supply, irrigation & sewerage
- Recirculation and cooling water pipelines for Thermal Power, Chemical, Cement, Fertilizer and Refineries etc.
- Large diameter inverted siphons
- High external load.

Our range covers:

| | |
|-----------------------|----------------------------------|
| Diameter range | : 350 mm to 2500 mm |
| Factory test pressure | : 20kg/cm ² |
| Length | : 5 Mtrs. |
| Joint | : Confined Rubber Ring |
| M.S. Special fittings | : Bends, Tapers, Tees, Adopters. |

First time in India, we are manufacturing 2000 mm dia. PSC Pipes for Ghaziabad Water Supply Scheme in Uttar Pradesh and for Puliknama Lift Irrigation Scheme in Andhra Pradesh.

13.2 BAR WRAPPED STEEL CYLINDER (BWSC) PIPES

BWSC pipe has been extensively used in USA, Europe and Middle-East countries for last more than 50 years. These pipes were introduced in India by IHP in 1997. So far we have completed 48 projects to an aggregate length of 365 KMs and about 39 projects to an aggregate length of 760 KMs are under execution.

Manufacture of BWSC pipes begins with a fabricated steel cylinder with joint rings, which is hydraulically tested. A cement mortar lining is placed by the centrifugal process inside the cylinder. After the lining is cured, the cylinder is wrapped with a smooth, hot-rolled steel bar, using moderate tension in the bar. The size and spacing of the bar as well as the thickness of the steel cylinder are proportioned to provide the required pipe strength. The cylinder and bar wrapping are covered with cement slurry and a dense mortar coating that is rich in cement by IHP's patented high velocity impaction process.



In fact, BWSC pipe is custom designed and an improved version of Steel pipe with lining and outcoating.

Structural Integrity:

Since bars are helically wrapped under tension, the structural integrity of these pipes is greatly enhanced because of the interlocking of steel elements of the pipe. This complete construction greatly increases the rigidity of pipe, beam strength and resistance to impact.

Corrosion Resistance:

The cement mortar encasement maintains the steel elements in a highly alkaline environment (pH of 12.5 or greater) in which galvanic corrosion is permanently inhibited. Under severe conditions, supplemental protection can be provided for any unusual surrounding conditions.

Stiffness:

Stiffness of the pipe is the result of the keying action of the pretensioned bar wrap over steel cylinder and the high velocity impaction cement mortar coating. From the result of Pipe stiffness Vs. Diameter Vs. Type of pipes, it is observed that these pipes are stiffer than Steel pipes lined and coated with cement mortar, PVC and Ductile Iron Pipes, resulting in reduction of cost of bedding and side support making it economical.

In view of the popularity this pipe is gaining with Water Supply and Drainage Departments, the Bureau of Indian Standards (BIS) published Indian Standard IS: 15155-2002 for the pipe.

Bar Wrapped Steel Cylinder (BWSC) Pipes are more economical to the extent of 20 to 30% compared to M.S. Pipes with lining and outcoating and 25% to 50% compared to Ductile Iron Pipes.

Our range covers:

| | | |
|-------------------------------|---|-------------------------------|
| Diameter range | : | 250 mm to 1900 mm |
| Maximum factory test pressure | : | 26kg/cm ² |
| Length | : | 5.2 to 6.5 mtrs. |
| Joint | : | Overlap welded joint |
| M.S. Special fittings | : | Bends, Tapers, Tees, Adapters |

13.3 PRESTRESSED CONCRETE CYLINDER PIPES (PCCP)

PCCP is the most widely used type of concrete pressure pipe in Western countries. Applications for this product include transmission mains, distribution mains, water intake and discharge lines, pressure siphons, low-head penstocks, industrial

pressure lines (including power plant cooling-water lines), sewer trunk mains, sub-aqueous lines (into both fresh and salt water) and spillway conduits.



Advantages of PCCP over Steel pipes are:

1. Efficient use of steel:

PCCP makes optimum use of steel. The composite action of steel cylinder, concrete core and HT wire results in a saving of about 40% of the total steel in a steel pipe.

2. Usage of local raw materials and minimum usage of steel plates.

3. Manufacturing can be done nearer to site depending upon quantum of job.

4. No need of external painting.

No periodical external painting is required after commissioning, hence maintenance cost which steel pipe requires is eliminated.

5. External load strength:

Conventional steel pipes can deflect significantly under external loads as those are flexible pipes. Steel pipes depend upon the soil support on each side to resist horizontal deflection. To achieve proper compaction special equipments, careful supervision by the contractor and regular inspection by

the owner are very much essential. This will result in substantial additional cost compared to Prestressed Concrete Cylinder Pipes which are rigid.

6. Virtual maintenance free
7. Economically cheaper pipe material

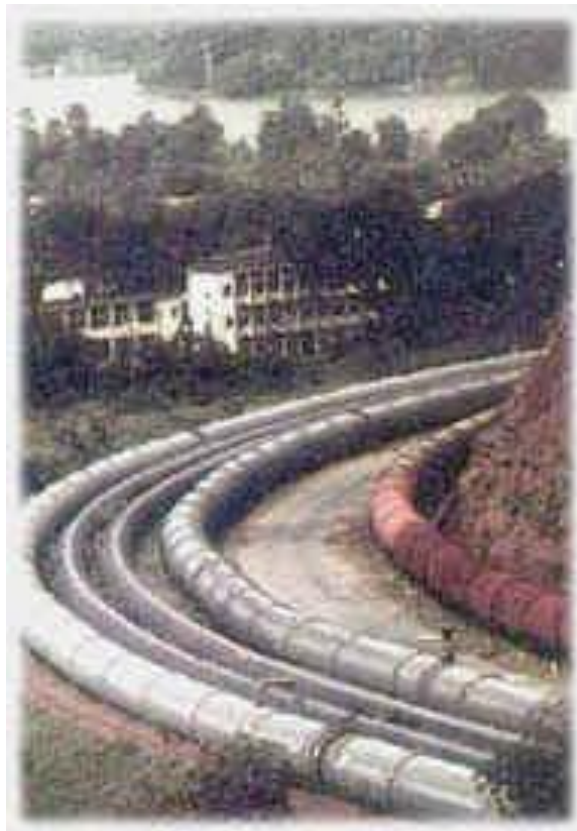
Prestressed Concrete Cylinder Pipes (PCCP) are more economical to the extent of 15 to 40% compared to M.S. Pipes with lining and outcoating and 20% to 50% compared to Ductile Iron Pipes.

Our range covers:

| | | |
|-----------------------|---|--------------------------------|
| Diameter range | : | 350 mm to 2500 mm |
| Factory test pressure | : | 25kg/cm ² |
| Length | : | 4 to 6.5 Mtrs. |
| M.S. Special fittings | : | Bends, Tapers, Tees, Adopters. |

13.4 STEEL PIPES

The Company started making Steel Pipes in collaboration with Humes of Australia during the year 1932. The centrifugal concrete lining which is now accepted throughout the world as a positive anti-corrosive lining was introduced in 1934. These Steel Cylinder Concrete Pipes, have a very enviable position in the pressure ranges above 20kg/cm² and sometimes, in special situations such as exposed pipeline, under-sea pipeline etc. Pipes are supplied with plain ends suitable for butt weld or slip-in-ends suitable for fillet welds. External protection to Steel Pipes is by cement rich mortar applied by IHP patented brush coating process. Epoxy or bituminous coating is also offered.



Our range covers :

- Diameters from 250 mm to 5000 mm.
- Length of pipe : 6 to 7.5 meters.
- Joints : slip-in or butt joint.
- Special fittings : Bends, Tapers, Tees, Adapters, Saddle supports & Expansion joints etc.

13.5 PENSTOCK PIPE

Initially, Penstocks were fabricated at shop set up near site of the respective hydro project. In 1958, the Company secured a prestigious contract for fabrication, supply and erection of steel liners for Head-race and Penstock tunnels of the underground Koyna Hydro-electric project near Pune. For this project a well equipped plant was set up for fabrication of Penstocks at Hadapsar in technical collaboration with two well-known Swiss firms M/s. Giovanola Freres S.A. of Monthey and Conrad Zchokke S.A. of Zurich.



During last more than 50 years, the Company has done many prestigious works, involving fabrication of large diameter Penstocks, Specials, Boiler shells, Cement Kilns, LPG tanks and many other plate work jobs.

Diameter : up to 10150 mm
Maximum work pressure : up to 100 kg/cm²
Maximum plate thickness : up to 52 mm
M.S. Special fittings: Bends, Tapers, Tees, Adopters & Saddle Supports

Overseas Penstock Projects

Nepal:

We have executed three Hydro Electric Projects Fabrication, Supply, and Erection

1. Trishuli H.E. Project Stage 1
2. Kulekhani H.E. Project

Malaysia:

We have fabricated and supplied Penstocks for Sungai Piah H.E. Project. Erection work was given to a Chinese firm who were doing the civil works.

Till date the company has fabricated, supplied & laid more than 135195 M T of penstocks for 51 projects.

SUMMARY

From the profile, duly considering our well spread out and wide network of 20 factories, our reputation of excellence through employing modern technology, stringent quality control measures, timely execution projects and continuous Research & Development, our products have been found acceptance in the highly competitive market.

Our expertise is at work right from designing of custom made pipes to total engineering packages for pipelines projects.

IHP undertakes turnkey projects of Water Supply Transmission Mains including the work of Intake Wells, Pumping Stations, Pumping Machineries, Water Treatment Plants, Ground Level Service Reservoirs, Elevated Service Reservoirs etc. of upto and more than 60 MLD.