

## DIRECTOR'S MESSAGE

A client, an investor, an associate, a channel partner or one of our very own team members, combined as well as individually has contributed their best in bringing MS Group of companies where it stands tall today and for that, I thank every one of you from the depth of my heart. When it comes to results we seek your satisfaction. We as a company take pride in everything we lay our hands on. The superior quality products we have delivered speak for themselves and depict that brilliance can be achieved when determination joins hands with hard work.

We are industry-wide accepted as the fastest growing manufacturer and supplier in all of the Eastern Indian states that include Odisha, Chhattisgarh, Jharkhand and more. The real change-maker though, are the factors like hard work, determination, foresightedness and cutting edge technology that we have acquired over the years that set us aside from the rest of our competitors.

We have built an entire process in a detailed manner from design to execution to final delivery through which we ensure the satisfaction of our customers is met. We pay extreme attention to the quality and features we provide throughout our products, of which attention to detail, superior quality, maximization of resources and elegant aesthetics are a few to name.

Be it the holy Sun Temple of Odisha or the famous Baidnath Temple of Jharkhand, the magnificent constructions of these places have always inspired me. The skilled craftsmanship that has been poured into these infrastructures lives in them till date and it reminds us of how advance and rich our heritage has always been. And as we march into the modern world we carry the proud skill passed on as a legacy to us and we infuse in our work. Our projects reflect a fine blend of our culture and what the market demands – from cutting edge, design-driven finest products made specifically for the market we serve. We have aimed to raise the bar of luxury infrastructure in India.

We are a young company and yet we have our roots spread across all these diversified core sectors in the cement manufacturing arena. And as we move forward and more opportunities lay in front of us we believe we are fully equipped for them and we envision ourselves leaving a mark in the Indian cement manufacturing products in the coming future.

## INTRODUCTION

Launched back in the early 2000s as one of the fastest-growing manufacturers of the RCC hume pipes we believe we are both leading and trusted suppliers of rich quality RCC hume pipes and other cement products best suited for road projects, railway projects, industrial infrastructures, civil constructions and agricultural applications spread over the states of Odisha, Chhattisgarh and Jharkhand.

With experience spanning over two large decades of consistently delivering the best quality at an affordable price, we MS Group of companies have emerged as the most sought after manufacturing units and have gained immense popularity thereafter.

With the guidance and management of Mr Suresh Ku. Aggrawal, a devoted and highly experienced manufacturer, the company has seen nothing but success even in such a cutthroat competitive sector. He has introduced a number of innovative build up solutions with the perfect blend of new age methodologies and technologies.

MS Group of companies already have a number of satisfied customers all over western Odisha and we plan to set our foot and constructively expand our business over the states of Odisha, Chhattisgarh Jharkhand and its neighboring states.

## PRODUCT DESCRIPTION

### 1. RCC HUME PIPES

We are manufacturing RCC hume pipes (Reinforced Cement Concrete) that range from a diameter of 100mm to a whopping 2000mm of class NP2, NP3 and NP4 according to the IS 458 specifications. RCC hume pipes (which are also known as spun pipes) are a reliable solution for multiple purposes for example sewerage, drainage, curvets, irrigations, water supply, transportation, service lines and many more. Our superior quality leak-proof, easy to repair and non-reactive to sewer toxin spun pipes are best for such applications.

### 2. PSC poles 8m/9m

Our best in quality PSC poles are specially made of concrete which inevitably makes them affordable to use and in the long run, are economically more easy to maintain hen compared to steel poles. These were one of the first ventures of our company and now we are its leading manufacturer in Northern India. With well-equipped standardized plant and machinery and over years of experience in the making of PSC poles we have achieved the best quality PSC poles you can find. The poles we manufacture conform to IS standards and we have a variety of poles which includes 8m and 9m.

### 3. Manholes and chambers

As important as a manhole is, it is an access point used to reach out to an underground utility network. Allowing it to be checked, repaired, cleaned and unblocked as and when needed. They also act as temporary water storage are which saves the water from instantly flooding away. The drainage engineers deliberately use these manholes for holding on to the water while they are working on pipe systems and let it flow after the pipework has been completed.

### 4. NP2 Reinforcement non-pressure pipes

Light duty drainage is tricky to handle be it from the drainage, or for irrigation or water transportation use, or cross drains or be it for culverts that carry light traffic through them. Our NP2 reinforcement pipes are the best solution for all your above-mentioned problems. You set them up once and you are good to go.

### 5. NP3 Reinforcement non-pressure pipes

Medium duty flow goes best through our NP3 reinforcement non-pressure pipes. They can be used for the purpose of handling your drainage flow, irrigation tasks, water transportations, service lines or cross drains. The pipes we make are also strong enough to carry medium traffic through them. They can be relied upon.

## 6. NP4 Reinforcement concrete non-pressure pipes.

Handling heavy-duty drainage is a responsible task. And be it for drainage, irrigation transportation use, service lines or cross drains our NP4 Reinforcement concrete non-pressure pipes are the best in quality pipes most suited to fulfil this task safely. They are made so strong especially to carry heavy traffic to railways through them.

### PROCESS OF MANUFACTURING SPUN PIPES/ RCC HUME PIPES

#### CAGING

The very first thing to be done is all reinforcement cages are fabricated on collapsible drums type cage machines. Each cage is separately weighed on the electric weighing machine. It is the duty of a supervisor to ensure that all the cages used are IS 458. The cages are tagged with the weights and according to their respective tags their weights are recorded on the black boards. A quality in charge would randomly check if these are maintained in the daily production sheet with their tag numbers and are given specific code numbers.

As per IS 458. 2003 table number 6.2.1 the pitch of circumferential reinforcement should not be more than the following

- a) 200mm for pipes of nominal internal diameter 80 to 150mm.
- b) 150mm for pipes of nominal internal diameter 200 to 350mm.
- c) 100mm for pipes of nominal internal diameter 400 and above.

#### MIXTURE

According to mix design and regular checking aggregates water, cement is used by weight. Instructions are written on board for preparing proper fixtures. Instructions are also given to consume the mixtures within 30 minutes and for its proper strength, IS 456 is used.

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All molds are properly cleaned by Hand Grinder after they are opened. Proper support is given for curtailment of cages. (If it is higher than two cages are made as per IS 458 and the upper cage is always 75% of the lower cage.) Proper oiling is done on the moulds as well as on the bushes and rings. These are then properly packed with tie rods and nut bolts.

#### Manufacturing

Then molding molds are properly kept on the runner with the help of chain pulleys. Initially while pouring the mixture RPM of the machine is very slow for proper pouring and then RPM is up to 1500 as per the requirement of IS 458. When the proper spinning is done it leaves extra water which gives strength to the pipe. Finally, the finishing of the pipe is done by cutting from rods.

#### DEMOLDING

While demolding with the help of chain pulleys moulds are separated. Moulds are de-moulded after 24 hours for proper quality of pipes.

Workmanship and finish: Pipes shall be straight and free from cracks. The ends of pipes should be square with their longitudinal axis. The outside and inside surfaces of pipes should be hard and dense and should not be coated with cement wash unless and until it is agreed by the customer and manufacturer or supplier.

#### CURING

After demolding with the help of trolleys, hydra and ceilings pipes are kept in curing tanks for proper curing. Rotation of pipes is done daily and 24 hours sprinklers are on. After some 28 days curing pipes are taken out and storage is done.

#### STACKING OF FINISHED PIPES

The cured pipes are taken out of the curing tank with the help of a crane and stacked properly at our stockyard.

#### MARKING

After the manufacturing process is completed all the pipes are marked and dated from the permanent marker. The supervisor records all these marked numbers in front of tagged numbers and afterwards, these are stored in computers by date and the marked number is with weights mentioned.

#### RANDOM PIPES TEST

The cured pipes are randomly selected and tested on the testing machine. The pipes undergo the following tests in accordance with IS 458:2003. Three edges bearing test, hydrostatic test and permeability test are performed.

#### SAMPLING AND INSPECTION

In any consignment all the pipes of the same class same size and belonging to the same mix of concrete shall be grouped together to constitute a lot, for ascertaining the conformity of the material to the requirements of these specifications, samples shall be tested from each lot separately.

#### DISPATCH/ DELIVERY

The tested and properly marked pipes are despatched to various sites through open body trailer type trucks and trailers. We have 35 trucks and 6 hydrams with people expert in loading of pipes and lifting of pipes. We also provide technical support if needed.