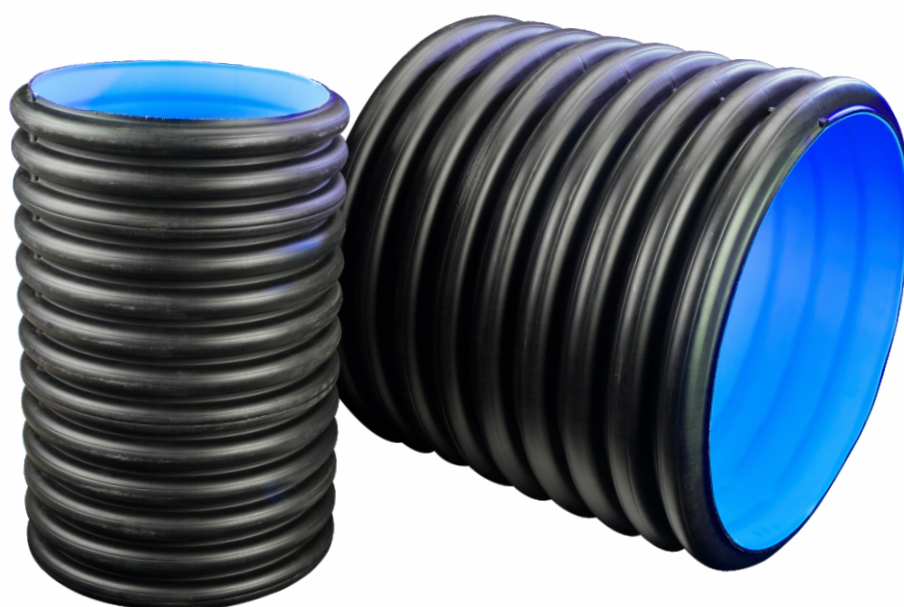


MAX' M DWCP IPES™
STRUCTURED WALL DRAINAGE AND SEWERAGE SYSTEM



DESIGNED TO PERFORM. SEALED FOR LIFE






MAKING A MARK SINCE 1992


Time Technoplast Ltd. is a multinational company engaged in the manufacture of innovative Polymer products based on the technology. Its business segments such as Industrial Packaging, Infrastructure, Lifestyle, Auto Components, Material Handling Solutions, Composite Cylinders & Healthcare Products caters to discerning customers.

The company has a strong presence in Asia & the MENA region, with factory locations spread across India, Bahrain, Egypt, UAE, Indonesia, Malaysia, Taiwan, Thailand and Vietnam, with state-of-the-art manufacturing plants (47) in the above countries.

The company has close proximity to serving the markets. Commitment to excellence and constant innovations have helped the company to experience good growth, with a CAGR of 26%.

INTRODUCTION TO

 is a double layer pipe with the outer layer having corrugation and the inner layer with a smooth surface. The outer corrugated layer substantially increases the stiffness of the pipe, which enables the pipe to take same burial load at a fraction of the weight of Solid wall pipes of the same size.

 is a technically superior and cost effective solution for drainage and sewerage systems over conventional DI & RCC pipes with a steep reduction in installation time and equipment hiring cost. These pipes are available in sizes ranging from 100mm DN/ID to 1200mm DN/ID having ring stiffness ranging from SN2.5 to SN16. Inner layer can be in different colours, with the outer layer in black colour.

 are manufactured as per following standards

IS 16098 Part II ISO-21138 Part III IS-14930 BS EN 50086

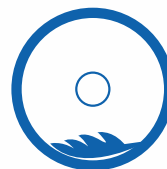


FEATURES & ADVANTAGES



Longer Length:

These pipes are available in 6m/12m length. Thus, the numbers of joints are less, resulting in faster installation.



Smooth Inner Surface:

Offers least resistance to flow. Improves flow characteristics.



Light weight:

Easy to handle, transport and install. 70-90% weight reduction compared to DI/RCC pipe.



High Impact Strength:

Does not dent/break during handling, transport and installation.



Long Service Life:

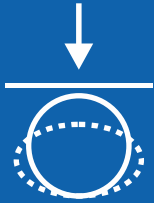
Due to inherent advantages of no corrosion and shedding sudden overload by temporary deformation and recovery, these pipes have long service life, compared to conventional piping material.



Low Installation Cost:

Installation cost is low on account of speedy jointing method, requiring no foreign material for jointing. Less trench width required, resulting in low civil work cost.

FEATURES & ADVANTAGES

**Deformation:**

Allows deformation and soil movement, which won't damage structure under external load, unlike rigid pipes.

**Chemically Inert:**

Does not corrode. Remains unaffected by gases/acid formed in sewers and chemicals present in sewage.

**High Abrasion Resistance:**

Due to high abrasion resistance, wear and tear is low. Thus, last longer.

**Ease in Jointing**

Due to integrated coupling system with elastomeric sealing ring, the process of jointing is fast and joints are leak-proof.

**Life Cycle Cost:**

Due to low product weight, low installation cost, least maintenance and longer life, life cycle cost is least.

**PP****PE****Recyclable:**

100% recyclable.

APPLICATIONS

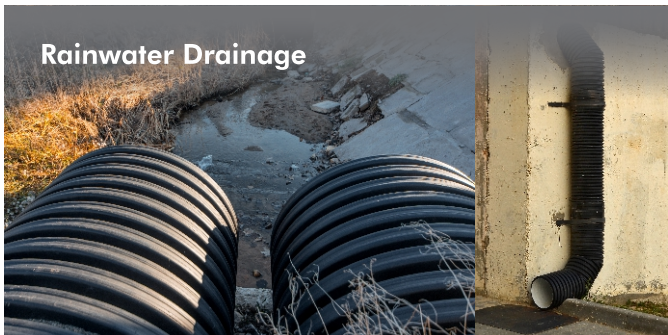
Sewer Line Application



Drainage System



Rainwater Drainage



Highway Drainage Corridors



Storm Water Drainage



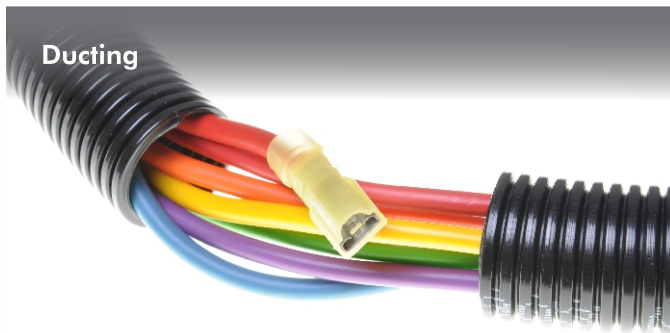
Effluent Discharge



Irrigation System



Ducting



QUALITY TESTS PERFORMED

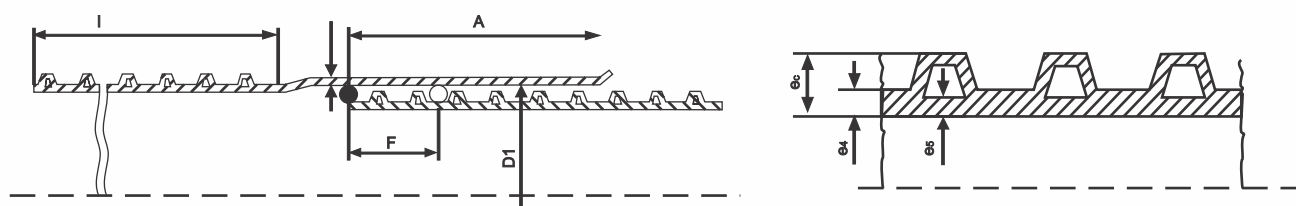
- Density Test
- Ring Flexibility
- Impact Strength
- Thermal Stability (Oxidation Induction Test)
- Mass Melt Flow Rate Test
- Ring Stiffness
- Water Tightness
- Creep Ratio

DIMENSIONS OF

DWC Pipe dimensions as per IS : 16098 Part II are as under

DN/ID Series (mm)		Minimum Wall Thickness (mm)		Socket Length (mm)
DN/ID	$d_{i,min}$	$e_{4,min}$	$e_{5,min}$	A_{min}
100	95	1.0	1.0	32
150	145	1.3	1.0	43
200	195	1.5	1.1	54
250	245	1.8	1.5	59
300	294	2.0	1.7	64
400	392	2.5	2.3	74
500	490	3.0	3.0	85
600	588	3.5	3.5	96
800	785	4.5	4.5	118
1000	985	5.0	5.0	140
1200	1185	5.0	5.0	162

Typical Assembly of Piping System



DN/ID : Internal Diameter
 $d_{i,min}$: Minimum Mean Inside Diameter
 $e_{4,min}$ & $e_{5,min}$: Minimum Thickness of
 Inside Layers as Shown in Figure above
 A_{min} : Minimum Socket Length

JOINTING SYSTEM

MAX' M DWCP IPES™ system incorporates Integrated Coupling system with elastomeric seal ring for leak tight joining.

Sealing ring plays a vital role in making joints leak-proof.

Elastomeric Sealing Rubber Ring

- Elastomeric sealing ring made of EPDM with resistance to UV exposure, ozone, ageing, weathering, and many chemicals - great for outdoor application.
- Low electrical conductivity
- Resistance to steam and water
- Surface of the ring is smooth, free from pitting cracks, blisters, air marks, and any other imperfection that may affect its behavior in service
- Elastomeric sealing rings are made in accordance with one of the type (Type 1 to Type 6) of IS 5382 standard.

The jointing procedure of DWC pipes is easy and simple to adopt and is illustrated below.



INSTALLATION

TRENCH PREPARATION

The width of a sewer trench depends on the soil condition, type of side protection, and the working space required at the bottom of trench for smooth installations. Increase in width over required minimum would unduly increase the load on pipe and cost of road restoration.

Excavation of sewer trenches should be in straight lines as much as possible and to the correct depths and gradients as per the requirement of design of the system. However, because of inherent flexible property, these pipes can also be laid at very wide and smooth curvatures without transitional manholes

Instead of conventional manholes, the specified fittings such as tees and bends etc. can be used at transitions. Excavated spoils should not be deposited in proximity to prevent the collapse of the side of the trenches. The sides of the trench shall, however, be supported by shoring (where necessary) to ensure proper and speedy excavations, concurrently ensuring necessary protections to contiguous structures.

DEWATERING

Sewer installation trenches shall be adequately dewatered for the placement of pipe at proper gradient till the pipe is integrated through socket and spigot joint/coupler assembly with the already laid segment. Precautions are to be taken to arrest floating of installed sewer segments against buoyant forces in case of sudden accumulation of water in the trench.

BEDDING

Normally, even for the maximum combined loading (wheel load + backfill), any form of cement concrete structural bedding would not be necessary.

For maintenance of sewer slopes the initial backfill envelop with sand or gravel (as computed through structural design of buried flexible conduit) over a single Brick Flat Soling would be sufficient.

In the event that the anchorage becomes imperative the transverse concrete anchorage blocks spaced at suitable interval shall also act as chairs for defining and maintaining the sewer slopes.

JOINTING & CONNECTIONS

Various methods for jointing such as regular coupler made by online process, spigot and sockets are used. The moulded socket will have a suitable internal surface with profile ribs for insertion of the next pipe into it. The socket end of the pipe to be inserted will have corrugated outer layer. On first valley segment of corrugated pipe (destined to be pushed into the coupler) one elastomeric rubber ring needs to be placed, which is pushed into the coupler socket. This provides sufficient gripping lock and leak-proof joint.

Similar system is also used for fabricated accessories or moulded fittings required such as Tee, Bends, Elbows and Reducer End Caps for the purpose of installation of the system related to drainage/sewerage.

JOINTING DIFFERENT PIPE TYPES OR SIZES

Sewerage/drainage systems often encounter connecting pipes of different materials/sizes etc. The fittings or adapters specifically designed for the purpose are available.

A selection of fittings designed to make the transition from one material directly to another are also available. In a few cases, fitting may need to be used in combination with separate manufacturer's gasket or coupler to give proper effect to the transition.

MANHOLES AND CATCH PIT CONNECTIONS

Brick Masonry Manholes can also be used at changes in pipe material, size, grade, direction and elevation. Manufacturer specified prefabricated appurtenant structures made of thermoplastic materials can also be used for onsite user friendly installations. Similar methodology should be followed for integration of catch pits.

SEWER CONNECTIONS

Other connecting lines should be integrated with the already laid system in the same manner as of original sewer lines.



TRANSPORTATION, HANDLING & STORAGE

TRANSPORTATION

The arrangement of loading the pipes in a telescopic manner is advised, i.e. smaller diameters inserted into the next higher sizes of pipes up to the height of 2.5 m in a truck. While loading the pipes into the truck, care should be taken that the spigot/ coupler end should be arranged alternatively in the corresponding layer so as to avoid the damage to the coupling/ socket-end.

HANDLING

Following recommendations shall be followed while handling the pipes:

- Pipes shall be smoothly lowered to the ground.
- Pipes should not be dragged against the ground to avoid the damages to the coupler/pipes.
- 900 mm and larger diameter pipes are carried with Slings at two points spaced approximately at 3 m apart.
- For smaller diameters (450 mm – 900 mm both exclusive) one lift point shall be sufficient. For diameters smaller than or equal to 450 mm manual labour can be used.
- Do not use a loading Boom or Fork Lift directly on or inside pipe.

PIPE STORAGE AT SITE

- Stockpiling should be done temporarily on a flat clear area as per Fig. 1.
- For avoiding collapse of stacks use wooden posts or blocks
- Stacking should not be higher than 2.5 m
- While stacking, alternate the socket/coupler ends at each row of stacked pipes as per Fig 2

Fig 1

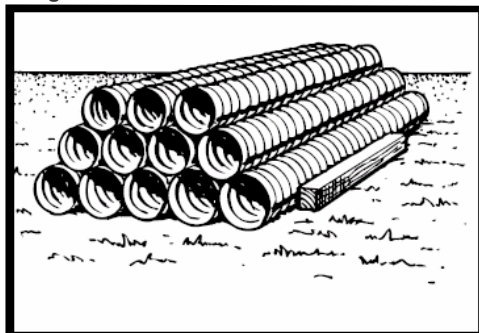
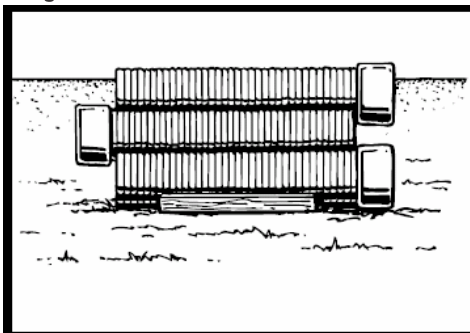


Fig 2





Industrial Packaging | Lifestyle | Infrastructure | Auto Components | Healthcare | Composite Cylinder | Material Handling

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