

WEIDA

HDPE DOUBLE WALL

CORRUGATED SEWER PIPE SYSTEMS



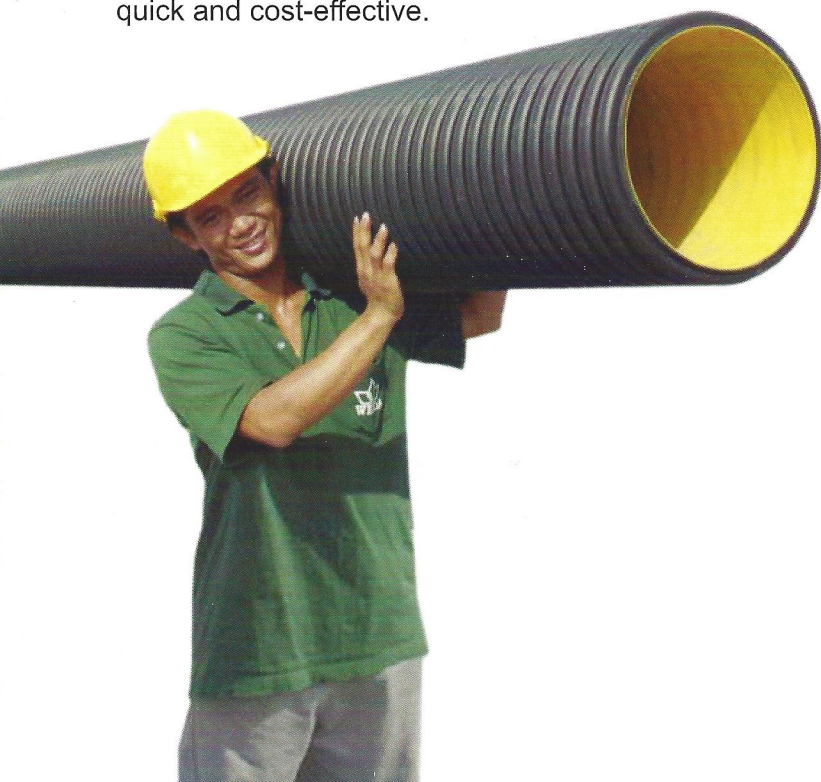
INTRODUCTION

Weida HDPE Double Wall Corrugated Sewer Pipe (DWCP) System provides the complete solution to your sewage pipeworks needs. **WEIDA DWCP** comes in a range of common diameter sizes and lengths with an advantageous, optional integral bell-end feature; coupled with an extensive range of pipe fittings, joints and accessories.

ADVANTAGES OF HDPE

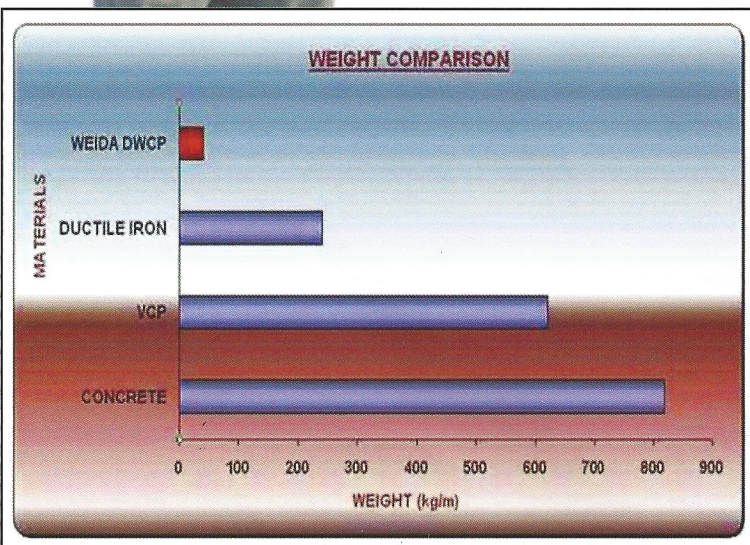
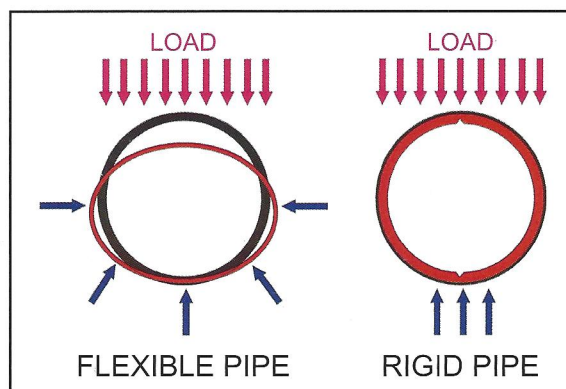
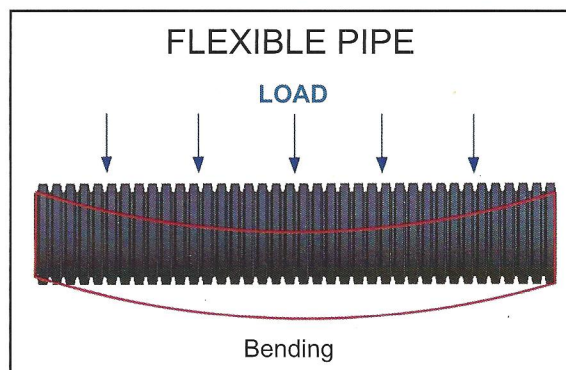
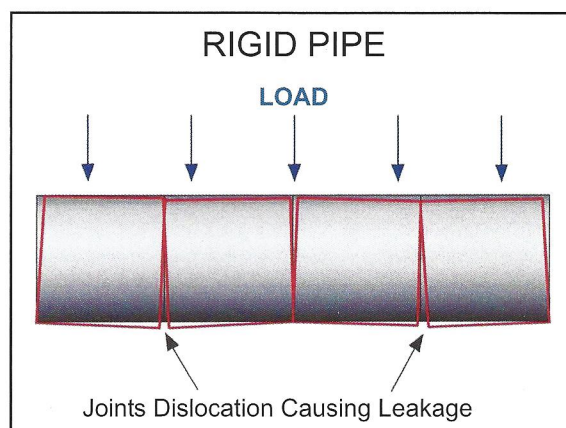
◆ LIGHTWEIGHT

HDPE pipe is lighter than traditional piping materials. Transportation, handling and laying becomes easy, quick and cost-effective.



◆ “FLEXIBLE” PIPE MATERIAL

While rigid pipes crack and dislocate due to soil movement and overloading, flexible HDPE pipes bends and deflects to conform to the soil condition.

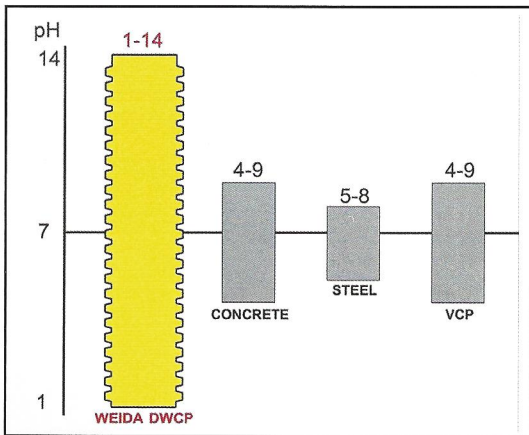


Weight Comparison of Various Types of Pipes
(Based on 900mm Pipes)

Comparison Between Flexible and Rigid Pipe

◆ CHEMICAL RESISTANT & LONG LASTING

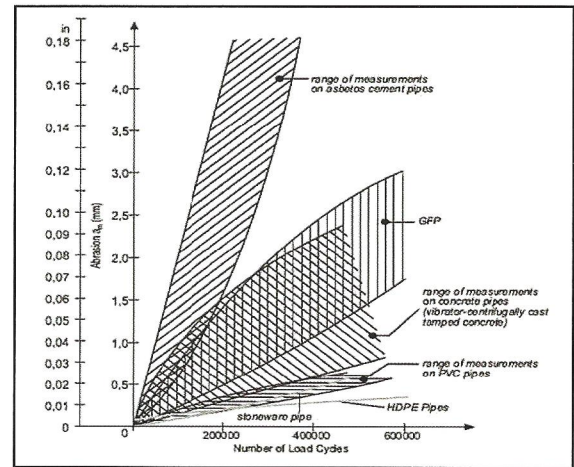
HDPE is highly resistant to chemical attacks from extremes of pH in soils and sewerage effluents. Unlike other traditional piping materials, it is applicable over a wide range of pH. A buried HDPE pipe does not decay or corrode, and can virtually last for tens of years.



Applicable pH Range for Various Types of Material

◆ ABRASION RESISTANT

WEIDA DWCP is very long lasting because HDPE material exhibits outstanding resistance to abrasion. The smooth finish produced from HDPE enables conveying or discharging fluids with abrasive material much easier & quicker.

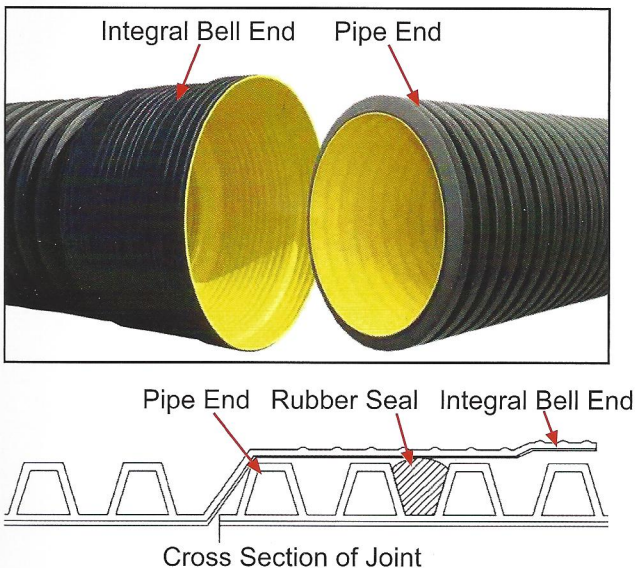


Abrasion Test for Various Types of Material

ADVANTAGES OF WEIDA DWCP

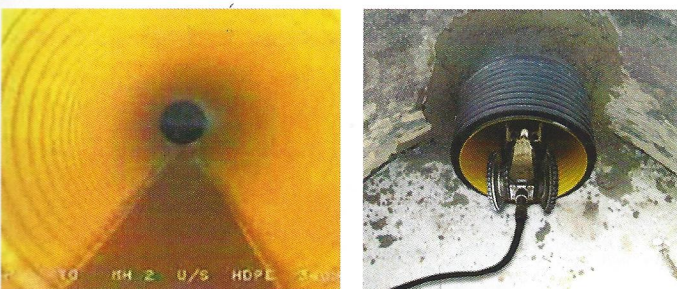
◆ INTEGRAL BELL END

Integral Bell End connections are joints with single seal. This eliminates the need for couplers, thus reducing costs and also chances of leakage.



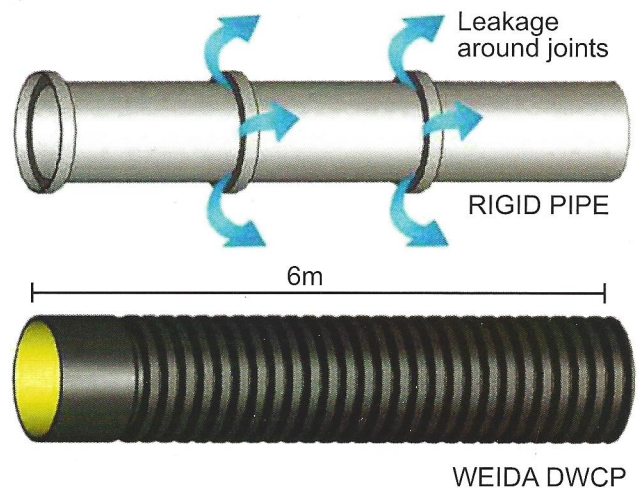
◆ YELLOW INTERNAL SURFACE

The bright internal surface makes pipe inspection via CCTV easy!



◆ LONGER LENGTHS & LESS JOINTS

Unlike vitrified clay pipes (VCP) and concrete pipes (CP) that come in lengths of 1.5-2m, WEIDA DWCP is available in longer lengths of 6m, which reduces the number of joints and leakages.



◆ HIGH FLOW CAPACITY

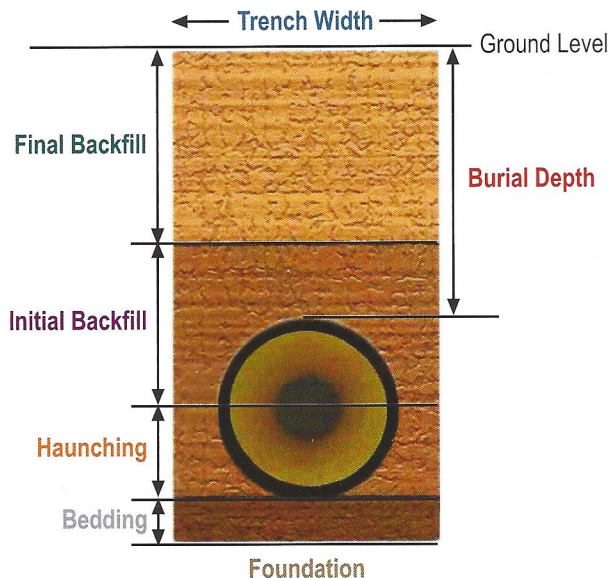
The low Manning's "n" values below indicate that WEIDA DWCP has lower flow resistance and higher flow volume compared to steel pipes and concrete pipes.

Comparison Of Pipe Wall Roughness Manning's "n" Values		
Weida DWCP	Corrugated Steel Pipe	Reinforced Concrete Pipe
0.010-0.012	0.022-0.026	0.011-0.015

Source: Corrugated Polyethylene Pipe Association

DESIGN AND INSTALLATION

A good sewer network is the result of proper pipeline design and sound installation practices. The pipeline should be designed for adequate flow capacities; whilst maintaining the pipe's structural integrity during its lifespan in service. Installation should be properly done to ensure pipe deflection is within acceptable limits and the installed pipeline remains on grade conforming to the intended design.



Size	Trench Width (mm)
100mm (4")	400
150mm (6")	500
225mm (9")	600
300mm (12")	800
450mm (18")	900

Suggested Minimum Trench Width

The various layers of backfill and their functions are as follows:

Foundation	To provide a hard support base for the bedding layer
Bedding	To establish line & grade and to provide firm pipe support
Haunching	To provide resistance against soil and traffic loading
Initial backfill	To give pipe support and protect pipes from stones in the final backfill
Final backfill	To satisfy loading, pavements and other requirements

The limits of burial depends largely on the type of backfill material, degree of compaction and the imposed load over the pipe.

The minimum burial depth for H-25 vehicular loads are 300mm (1ft)*.

*[Based on Class 3 backfill, compacted to 90% Standard Proctor Density]

H-25 load represents a 25 tons truck of American Highway Standard (AASHTO)

The maximum burial depth typically ranges from 4-18m**, depending on applications and engineering design.

**[Source: Corrugated Polyethylene Pipe Association]



Trench excavating



Backfilling of sewer pipe

The recommended design and installation manual for WEIDA DWCP is The Complete Corrugated Polyethylene Pipe Design Manual and Installation Guide by the Corrugated Polyethylene Pipe Association (CPPA), USA.

The standard reference for HDPE sewer pipeline installation is the ASTM D 2321 : Standard Practice for Underground Installation of Thermoplastic Pipes for Sewer and Other Gravity Flow Applications.

CONNECTIONS: PIPE TO FITTING / DOUBLE-END SOCKETS



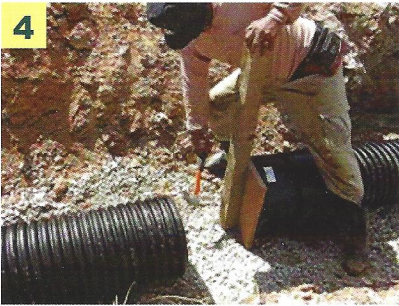
1
Clean pipe ends, rubber rings and internal faces of the socket with soap water



2
Insert rubber ring onto the second valley of the pipe



3
Align and insert socket into pipe



4
Push socket into pipe carefully, ensuring that the socket ends are protected from damage



5
Align the next pipe with the socket and repeat Step 1 and 2



6
Pipe is pushed into the socket to complete the connection

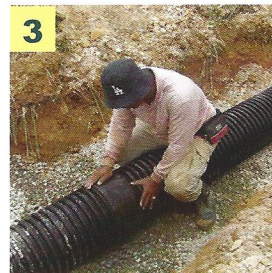
CONNECTIONS: PIPE TO INTEGRAL BELL END



1
Clean pipe end, rubber ring and internal faces of bell end with soap water



2
Insert rubber ring onto second valley of the pipe



3
Push the pipe into integral bell end

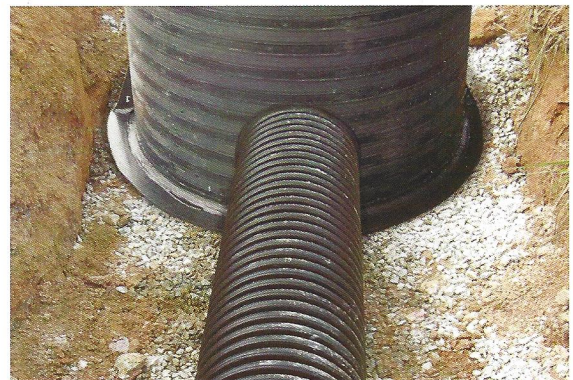


4
Example of a complete connection

MANHOLE CONNECTIONS



Grouting WEIDA DWCP to a concrete manhole



Connection of Weida DWCP to Floline 3-W manhole

PRODUCT STANDARD

WEIDA DWCP has the following certification and approval:

- ◆ DIN 16961 Part 1 & 2 - Thermoplastic Pipes and Fittings With Profiled Outer And Smooth Inner Surfaces
- ◆ Jabatan Perkhidmatan Pembetungan (JPP)

SIZES AVAILABLE

Pipe With Integral Bell End



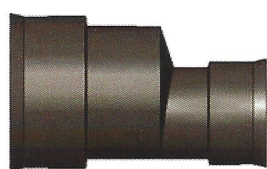
Pipe With Plain End



NOMINAL DIAMETER	mm	100	150	225	300	450
	inches	4	6	9	12	18

Standard Length: 6m

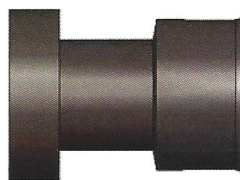
FITTINGS



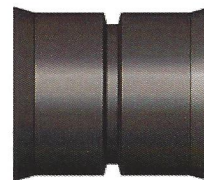
Straight Reducer



End Cap



Transition Piece



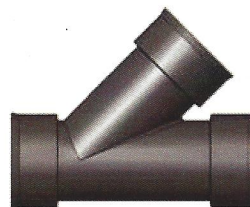
Coupler



Elbow (45° & 90°)



Tee Branch
(Equal & Unequal)



Wye Branch
(Equal & Unequal)



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