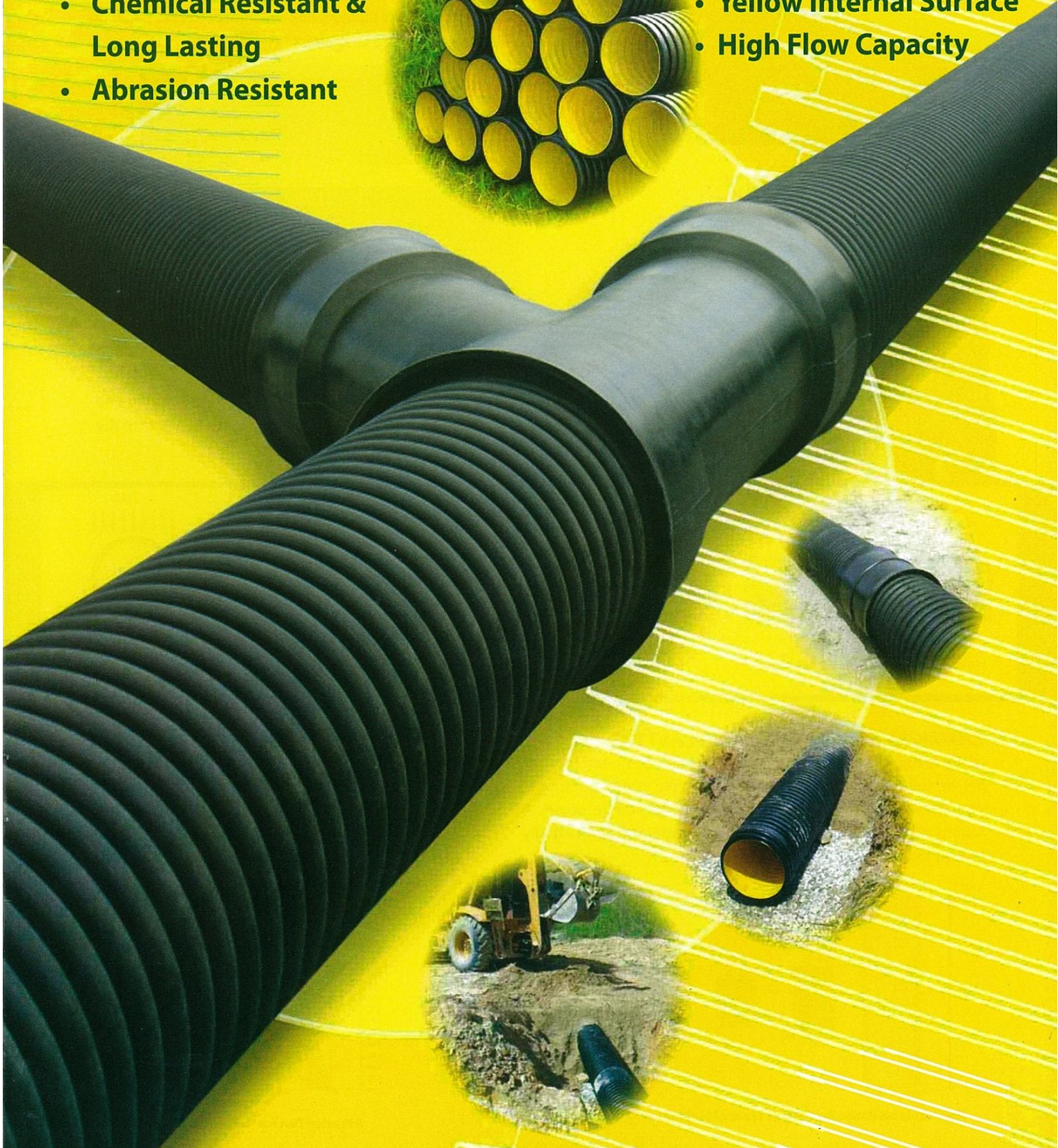


# **WEIDA**®

## **DOUBLE WALL CORRUGATED HDPE PIPE**

- **Lightweight**
- **"Flexible" Pipe Material**
- **Chemical Resistant & Long Lasting**
- **Abrasion Resistant**

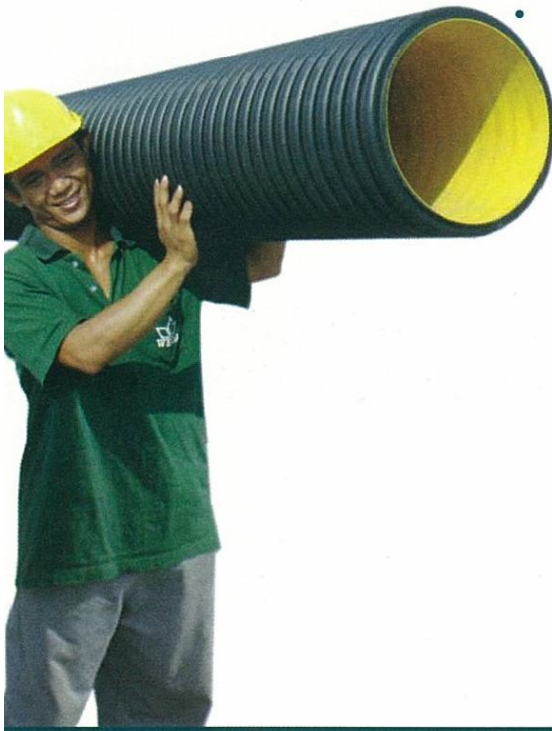
- **Longer Lengths & Less Joints**
- **Yellow Internal Surface**
- **High Flow Capacity**



## INTRODUCTION

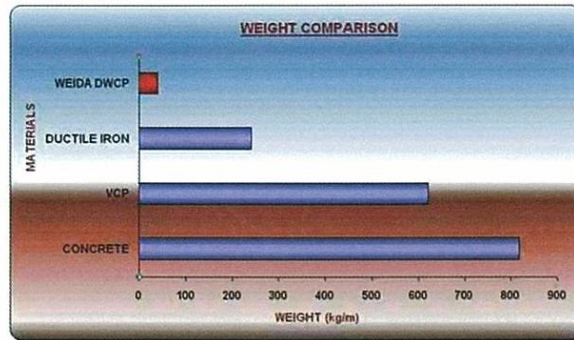
Weida HDPE Double Wall Corrugated Sewer Pipe (DWCP) System provides the complete solution to your sewage pipe works needs. WEIDA DWCP comes in a range of common diameter sizes and lengths, coupled with an extensive range of pipe fittings, joints and accessories.

## ADVANTAGES OF HDPE



- **LIGHTWEIGHT**

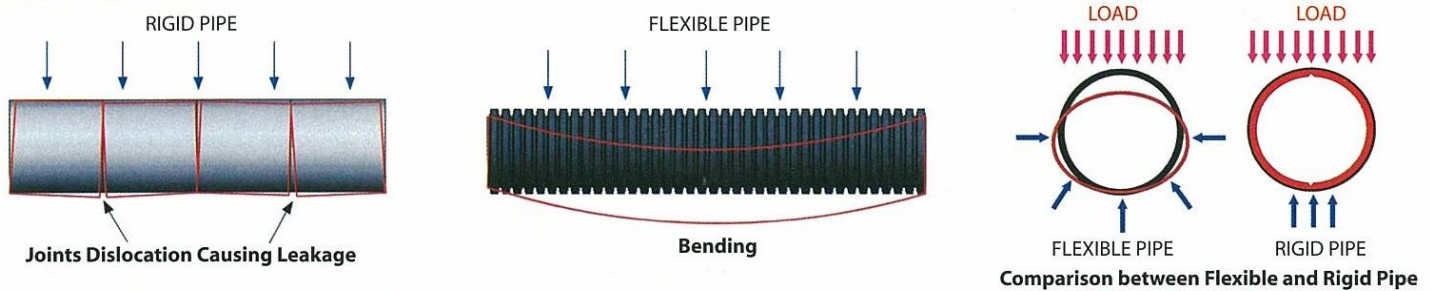
HDPE pipe is lighter than traditional piping materials. Transportation, handling and laying becomes easy, quick and cost-effective.



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

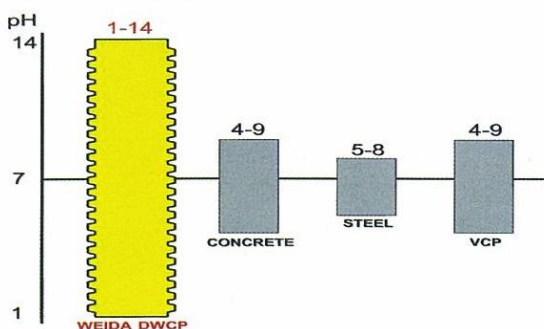
- **"FLEXIBLE" PIPE MATERIAL**

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



## CHEMICAL RESISTANT & LONG LASTING

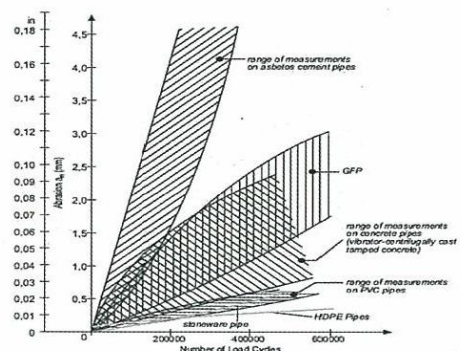
HDPE is highly resistant to chemical attacks from extremes of pH in soils and sewerage effluents. Unlike other traditional piping materials, it is applicable over a wide range of pH. A buried HDPE pipe does not decay or corrode, and can virtually last for tens of years.



Applicable pH Range for Various Types of Material

- **ABRASION RESISTANT**

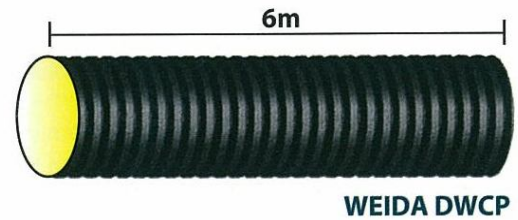
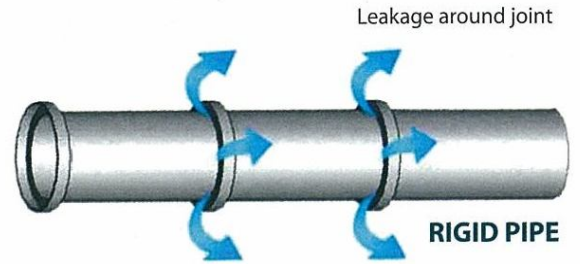
WEIDA DWCP is very long lasting because HDPE material exhibits outstanding resistance to abrasion. The smooth finish produced from HDPE enables conveying or discharging fluids with abrasive material much easier & quicker.



Abrasion Test for Various Types of Material

## ADVANTAGES OF WEIDA DWCP

- LONGER LENGTHS & LESS JOINTS**  
 Unlike vitrified clay pipes (VCP) and concrete pipes (CP) that comes in length of 1.5-2m, **WEIDA DWCP** is available in longer lengths of 6m, which reduces the number of joints and leakages.
- YELLOW INTERNAL SURFACE**  
 The bright internal surface makes pipe inspection via CCTV easy.
- HIGH FLOW CAPACITY**  
 The low Manning's "n" values below indicates that **WEIDA DWCP** has lower flow resistance and higher flow volume compared to steel pipes and concrete pipes.



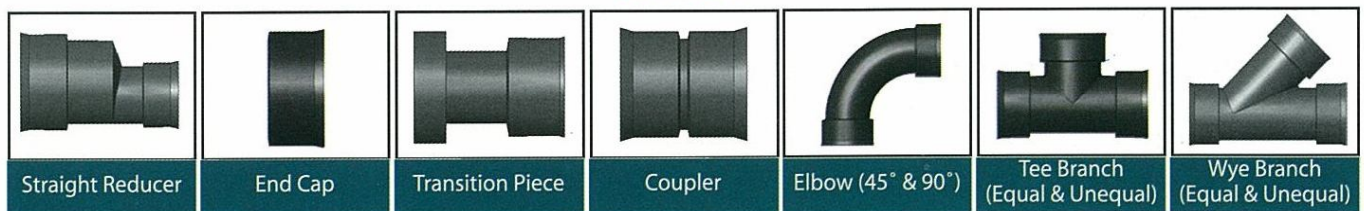
Comparison Of Pipe Wall Roughness Manning's "n" Values		
Weida DWCP	Corrugated Steel Pipe	Reinforced Concrete Pipe
0.010 - 0.012	0.022 - 0.026	0.011 - 0.015

Source: Corrugated Polyethylene Pipe Association

## 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
  - Suruhanjaya Perkhidmatan Air Negara (SPAN)

### FITTINGS



## SIZES AVAILABLE



Pipe With Plain End

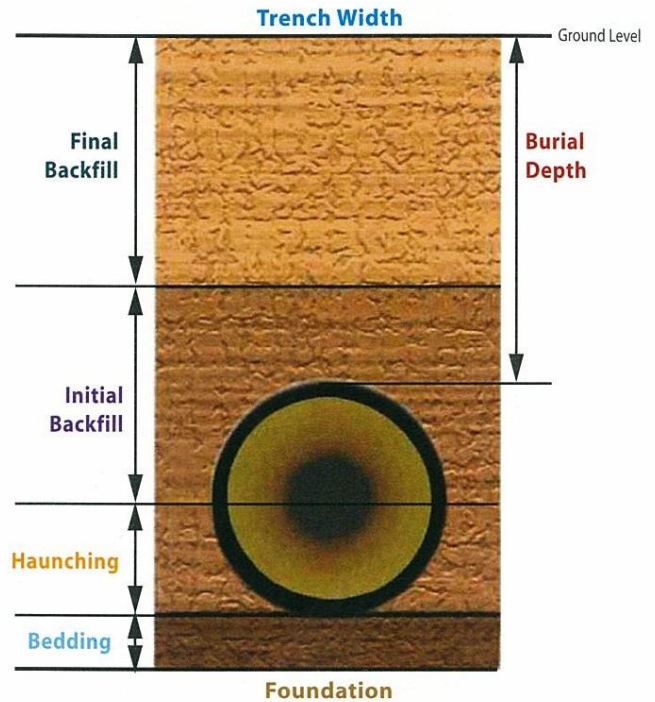
NORMAL DIAMETER	mm	150	225	300	375	450	600	750
	inches	6	9	12	15	18	24	30

## 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
375mm (15")	850
450mm (18")	900
600mm (24")	1200
750mm (30")	1500
<i>Suggested Minimum Trench Width</i>	



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)\*.

\* (Base 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)

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 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 installation is the ASTM D 2321 : Standard Practice for Underground Installation of Thermoplastic Pipes for Sewer and Other Gravity Flow Applications.

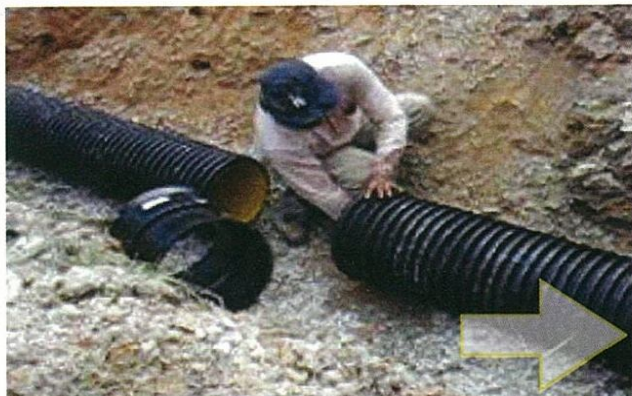


Backfilling of sewer pipe



Trench excavating

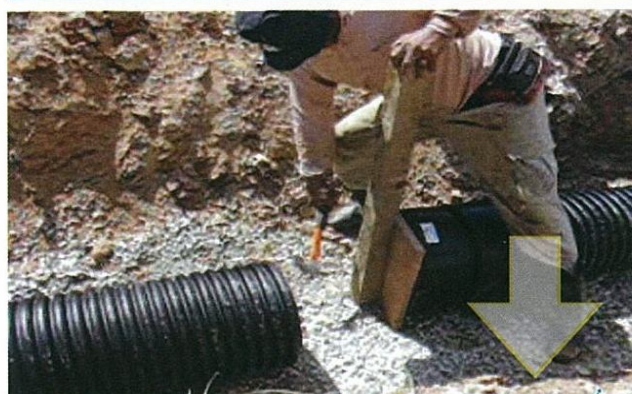
## CONNECTIONS: Pipe To Fitting / Double-end Sockets



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



Insert rubber ring onto the second valley of the pipe



Pipe is pushed into the socket to complete the connection



Align and insert socket into pipe

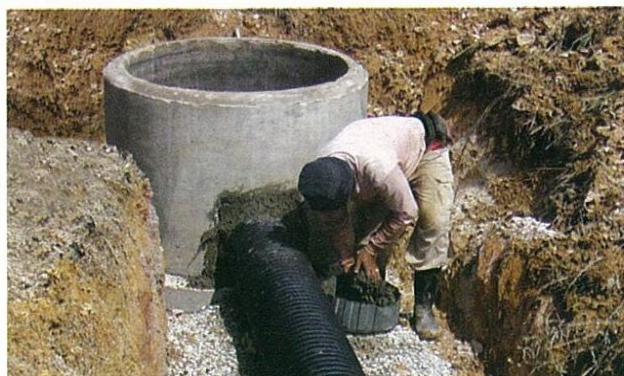


Align the next pipe with the socket and repeat Step 1 and 2



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

## MANHOLE CONNECTIONS



Grouting WEIDA DWCP to a concrete manhole



Connection of WEIDA DWCP to Floline 3-W manhole