الاتحاد لصناعة الأنابيب
UNION PIPES
INDUSTRIES

HDPE

CORRUGATED PIPING SYSTEMS

DOUBLE WALL & SINGLE WALL SOLUTIONS

Sewerage | Stormwater | Telecom Cable Protection



DWC + SINGLE WALL
PRODUCT FAMILIES

SN 4 / SN 6 / SN 8
RING STIFFNESS

DRAINAGE + TELECOM
APPLICATIONS

CATALOGUE NAVIGATION

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A structured guide to UPI HDPE corrugated piping systems and applications.

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ABOUT US

UNION PIPES INDUSTRIES

Union Pipes Industries (UPI) is a Saudi manufacturer of polyethylene piping systems, providing corrugated pipes, fittings and accessories for infrastructure, drainage and utility applications. Manufacturing and inspection activities are supported by dedicated production, quality and technical teams.



1 **DWC PIPE EXTRUSION**

Double wall corrugated pipes with a smooth inner wall.

2 **SINGLE WALL SYSTEMS**

Corrugated conduit configurations for approved utility applications.

3 **FITTINGS & ACCESSORIES**

Corrugated couplers, tees, reducers and end caps.

4 **QUALITY CONTROL**

Raw-material, in-process and final-product inspection.

NWC APPROVED

Product specifications and availability are confirmed against each application and project requirement.

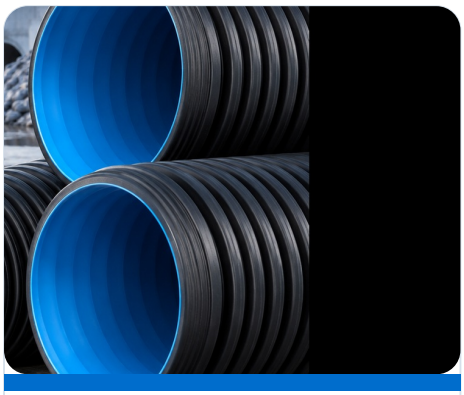
PRODUCT FAMILIES

CORRUGATED SYSTEMS FOR INFRASTRUCTURE

UPI manufactures HDPE double wall and single wall corrugated piping systems for buried drainage, sewerage and approved utility applications. Double wall pipes combine a profiled outer wall with a smooth inner wall, while each product configuration is selected according to its intended application and project requirements.

LIGHTWEIGHT	CORROSION RESISTANT	SMOOTH BORE	RING FLEXIBILITY
Efficient handling	Durable HDPE	Efficient flow	Resistance to deformation

CORE PRODUCT FAMILIES



DWC DRAINAGE & SEWERAGE

SN 4, SN 6 and SN 8 pipes for gravity-flow buried networks.



DWC TELECOM DUCT

DN 100 and DN 150 coils up to 100 m; orange outer and smooth white inner.



SINGLE WALL CORRUGATED

Corrugated utility conduit supplied to the approved project configuration.

A COMPLETE SYSTEM FOR MODERN INFRASTRUCTURE

Product type, stiffness class, colour and length are selected for the intended application.

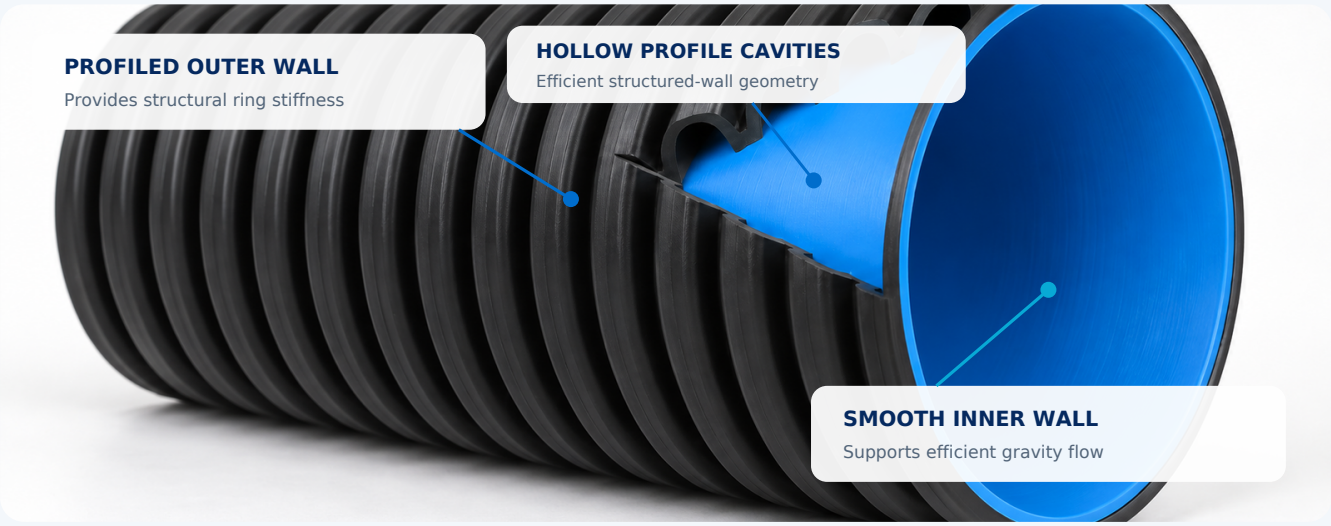
PRODUCT CONSTRUCTION

DOUBLE WALL. ONE INTEGRATED STRUCTURE.

Type B structured-wall construction combines a smooth inner surface with a profiled outer wall. The two walls are integrally formed to deliver hydraulic efficiency and ring stiffness for non-pressure buried drainage and sewerage applications.

REALISTIC CUTAWAY SECTION

DOUBLE WALL CONSTRUCTION



SYSTEM ATTRIBUTES

01 STRUCTURAL EFFICIENCY

Profiled outer geometry provides ring stiffness with efficient use of HDPE material.

02 HYDRAULIC PERFORMANCE

Smooth internal surface supports efficient flow and helps reduce sediment accumulation.

03 INTEGRAL CONSTRUCTION

Inner and outer walls are formed as one continuous double-wall pipe structure.

04 PUSH-FIT JOINTING

Bell-spigot or coupler joint options use an elastomeric sealing ring, as applicable.

PRODUCT STANDARD EN 13476-3 - Non-pressure underground drainage and sewerage, Type B

KEY FEATURES

PERFORMANCE BY DESIGN

Key performance characteristics of UPI HDPE double wall corrugated pipes.

01 RING STIFFNESS

The profiled outer wall provides structural stiffness for buried installation when the pipe-soil system is correctly designed.

02 SMOOTH HYDRAULIC BORE

A continuous smooth inner surface supports efficient gravity flow and helps limit sediment accumulation.

03 RING FLEXIBILITY

Thermoplastic flexibility allows controlled deformation without cracking when installation and compaction are appropriate.

04 CORROSION RESISTANCE

HDPE does not undergo electrochemical corrosion and is suitable for many drainage environments.

05 ABRASION RESISTANCE

The polyethylene surface offers useful resistance to abrasion from suspended solids in drainage service.

06 LOW WEIGHT

Lower unit weight than many rigid alternatives supports easier transport, handling and installation.

07 SEALED JOINT SYSTEM

Elastomeric-ring push-fit joints are designed to provide system sealing when correctly assembled and tested.

08 INTEGRATED SYSTEM

Pipes, couplers and fittings can be configured as a coordinated drainage and sewerage system.

Performance depends on product selection, joint assembly, installation conditions and compliance with the applicable project design.

PRODUCT RANGE

DWC PIPE RANGE

Available ring-stiffness classes with documented SN 8 dimensional data.



RING STIFFNESS: SN 4 / SN 6 / SN 8

Ring stiffness tested in accordance with ISO 9969

MATERIAL: HDPE | STANDARD: EN 13476-3 | TYPE B

NOMINAL SIZE	OUTSIDE DIAMETER (mm)	MIN. INSIDE DIA. (mm)	STANDARD LENGTH
DN 100	115 ± 1	≥ 95	6 / 12 / 100 m
DN 150	169.0 - 173.0	≥ 145	6 / 12 / 100 m
DN 200	228.5 - 233.5	≥ 195	6 / 12 m
DN 250	286.0 - 292.0	≥ 245	6 / 12 m
DN 400	458.5 - 465.5	≥ 392	6 / 12 m
DN 500	572.5 - 581.5	≥ 490	6 / 12 m
DN 600	687.5 - 696.5	≥ 588	6 / 12 m

1 **6 m - SOCKET END**

All listed diameters can be supplied in 6 m lengths with an integral socket end.

2 **12 m / 100 m - PLAIN END**

All sizes: 12 m plain. DN 100 and DN 150: coils up to 100 m plain for telecom applications.

Note: DN 100 and DN 150 coil lengths up to 100 m apply to the telecom configuration. Dimensional values shown are from SN 8 TDS data.

APPLICATIONS

BUILT FOR BURIED INFRASTRUCTURE

Representative applications subject to product configuration, project design and installation requirements.



UNDERGROUND SEWERAGE



STORMWATER OUTFALLS



HIGHWAY CULVERTS



SUBSURFACE DRAINAGE



INDUSTRIAL DRAINAGE



TELECOM CABLE PROTECTION

SYSTEM COMPONENTS

FITTINGS & ACCESSORIES

Documented UPI components for completing HDPE DWC drainage networks.



CORRUGATED COUPLER

DWC SYSTEM COMPONENT



END CAP

DWC SYSTEM COMPONENT



REDUCER TEE

DWC SYSTEM COMPONENT



EQUAL TEE

DWC SYSTEM COMPONENT



Y-TEE

DWC SYSTEM COMPONENT



CORRUGATED BEND

DWC SYSTEM COMPONENT

SYSTEM CONFIGURATION

Dimensions shown reflect the currently supplied TDS examples. Full availability and geometry shall be confirmed against the approved product drawing and project bill of quantities.

ASSEMBLY

DWC PUSH-FIT JOINTING

General sequence for DWC bell-spigot or corrugated coupler joints with elastomeric sealing rings.

1 INSPECT

Check pipe ends, socket/coupler and sealing ring for damage or contamination.

2 CLEAN

Clean all mating surfaces using a lint-free cloth; remove soil, grit and foreign material.

3 FIT THE SEAL

Install the specified elastomeric ring in the correct corrugation valley and orientation.

4 LUBRICATE

Apply only an approved lubricant compatible with the pipe and sealing material.

5 ALIGN & INSERT

Align the pipe axes and push the spigot steadily to the marked insertion depth.

6 VERIFY

Confirm insertion, alignment and seal position; perform specified inspection or leakage test.

IMPORTANT

Do not use impact loading or uncontrolled mechanical force. Follow the approved installation method and manufacturer instructions for the supplied joint configuration.

SITE PRACTICE

PROTECT THE PRODUCT

Good handling and storage practice helps prevent deformation, impact damage and contamination.

01 HANDLING

- Use suitable lifting slings and support long pipes at balanced points.
- Do not drag pipes across sharp or abrasive surfaces.
- Never insert lifting equipment into the pipe bore.

02 TRANSPORTATION

- Use a flat, clean vehicle bed with adequate support.
- Secure the load without over-tightening or deforming the pipe.
- Prevent overhang, rolling and contact with sharp edges.

03 RECEIVING

- Inspect quantity, marking, ends and surfaces at delivery.
- Record visible damage or missing items before acceptance.
- Segregate damaged items pending technical evaluation.

04 STORAGE

- Store on level, debris-free ground with suitable chocks.
- Keep stacks stable and segregated by size where practical.
- Control stack height using the approved UPI storage procedure.

Site-specific lifting plans, safe working loads and stack limits shall be defined by competent personnel.

TESTING

FROM RAW MATERIAL TO PRODUCT

Principal controls referenced in the supplied SN 8 black DWC drainage-pipe technical data sheets.

TEST / CHARACTERISTIC	REFERENCE STANDARD	CONTROL STAGE
Melt flow rate	ISO 1133	Raw material
Density	ISO 1183	Raw material
Carbon black content	ISO 6964	Black material
Oxidation induction time	ISO 11357-6	Raw material
Dimensional characteristics	EN 13476-3	Finished pipe
Ring stiffness	ISO 9969	Mechanical
Ring flexibility	ISO 13968	Mechanical
Resistance to heating	ISO 12091	Physical

QUALITY RELEASE

Acceptance is based on the applicable standard, approved specification, inspection plan and product-specific records.

REFERENCE FRAMEWORK

STANDARDS BEHIND THE SYSTEM

Product requirements and test methods used in the supplied UPI technical documentation.

EN 13476-3

Product and system requirements for Type B structured-wall pipes and fittings used in non-pressure underground drainage and sewerage.

ISO 9969

Determination of ring stiffness for thermoplastics pipes.

ISO 13968

Determination of ring flexibility for thermoplastics pipes.

ISO 12091

Oven test method for thermoplastics pipes with structured walls.

ISO 1133 / ISO 1183

Melt mass-flow rate and density characteristics of thermoplastics materials.

ISO 6964 / ISO 11357-6

Carbon black content and oxidation induction time test references.

NWC APPROVED | PROJECT COMPLIANCE

The contract specification, approved product data and applicable local regulations govern final product selection.

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INDUSTRIES

LET US BUILD RELIABLE INFRASTRUCTURE TOGETHER.

HDPE CORRUGATED PIPING SYSTEMS

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