HDPE STRUCTURED WALL PIPES

FOR NON-PRESSURE UNDERGROUND DRAINAGE AND SEWERAGE

Content

WWW.HEBEISHGROUP.COM

Vision

To enhance the quality of life across Egypt and North Africa by delivering advanced infrastructure solutions that improve potable water systems, wastewater treatment, and telecommunication networks.

Mission

To deliver durable, efficient thermoplastic piping solutions backed by decades of expertise, ensuring exceptional quality, reliable performance, and long-term customer satisfaction. Through integrity, innovation, and strong partnerships, we aim to support infrastructure development across Egypt and North Africa.

About Hebeish Group

Hebeish Group is a family-owned business established in 1964 by Abel Messih Hebeish. Over the decades, the group has grown into a leading supplier in thermoplastic piping solutions, with over 25 years of experience in the field.

As one of the pioneers in introducing HDPE piping systems to the Egyptian market, Hebeish Group today offers a full range of solutions including thermoplastic pipes and fittings, manholes, tanks, and welding equipment, serving applications in pressure systems, sewerage and drainage networks, and cable protection.

With a deep-rooted commitment to quality, innovation, and reliability, Hebeish Group remains a trusted partner for infrastructure and utility projects across Egypt and beyond.

About Us

A Complete And Reliable Solution For Drainage, Sewerage And Stormwater Applications

POLYGRANDE

PolyGrande® is a ***HebeishGroup*** brand for the HDPE Structured Wall Pipes range. PolyGrande provides a competitive solution for drainage, sewerage and stormwater applications manufactured and sold by ***October for Plastic Pipes*** [a member of ***Hebeish Group***]

- *Light Weight*
- *Easy Installation*
- High Chemical And Abrasion Resistance
- High Stress Crack Resistance

CERTIFICATIONS

الهيئة القومية لمياه الشرب والصرف الصحى

ISO 9001
ISO 14001
ISO 45001

Certificate Number: 26228

Products and Services

Pipes

ID150-1600mm pipes with ring stiffness up to ***64 kN/m²****

Additional Products

Fabrications, Tanks, and Manholes** customized according to client and project requirements

Services

Site Supervision, Welding, Pipeline Installation & Maintenance, Site Testing

The PolyGrande® Advantage

A Robust Design
The pipe design provides a comparatively sturdier product that can withstand the inevitable impacts of onsite handling

Efficient Connection Method
A *socket-pipe* connection resulting in a more cost effective installation when compared to a socket-spigot connection

Leak Proof Guaranteed
Custom made rubber gasket design to guarantee leak free installation.
HebeishGroup is responsible to deliver leak free extrusion welds

Longer Pipe Lengths
Capability to provide pipes up to 12 meters in length compared to the industry average of 6 meters

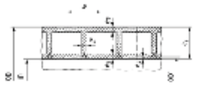
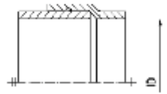
Quick Delivery Time
Production capabilities and systems in place support expedited delivery times due to continuous production

**according to **DIN16961-2*
manufactured by **Hebeish for Engineering Works

Pipe Range

Products Standards

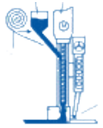
Dimensions and Product Specifications

Profile Design	ID *[mm]*	Tolerance *[mm]*		*e5, min* *[mm]*	Connection Type | Length = 12m*		
		Lower Limit	Upper Limit		Extrusion Weld [DVS 2207]	Push-in Joint with Rubber Seal	Push-in Joint Type Schematic
	500	-13	+10	3	X	✓	
	600	-15	+12	3.5	X	✓	
	800	-20	+16	4.5	X	✓	
	900	-23	+18	4.5	✓	X	
	1000	-25	+20	5	✓	✓	
	1100	-28	+22	5	✓	X	
	1200	-30	+24	5	✓	✓	
	1300	-33	+26	5	✓	X	
	1400	-35	+28	5	✓	X	
	1500	-38	+30	5	✓	X	
	1600	-40	+32	5	✓	X	

**custom lengths could be supplied according to customer's requests*

Pipe  DIN16961-1&2

Leak Test  EN1610

Welding*  DVS2207

**extrusion welding of pipeline*

Quality Control

Product quality control testing and frequency as indicated in the **DIN16961-2**:

#	Test Object		Characteristic Tested	Frequency	Standard
	Pipe	Fitting			
1	X	X	Appearance	continuously	DIN16961-2 5.1.1
2	X	X	Surface appearance	every 2 h or each pipe/fittings	DIN16961-2 5.1.2
3	X	X	Color	continuously	DIN16961-2 5.1.3
4	X	X	Dimension	every 2 h or each pipe/fittings	DIN16961-2 5.1.4
5	X	X[b]	Ring stiffness[c] S_{R24}	1 × each month and whenever material parameters are changed	DIN16961-2 5.2.1
6	X	X[b]	Creep modulus	each time raw material is changed	DIN16961-2 5.2.2
7	X	X[b]	MFR	each time raw material is changed	DIN16961-2 5.2.7

[a] For continuous production methods and injection moulding, every 2 h, for other, discontinuous methods and for manual methods, each component.
[b] Test may be dispensed with if fitting is made from pipe that is inspected for the relevant characteristic.
[c] Tests are to be carried out on pipes, fittings, and pipe joint assemblies no earlier than 24 h after their manufacture, where not otherwise specified.

Ring Stiffness

Ring stiffness measures a pipe's resistance to radial deformation from soil loads and traffic pressure. It's a key structural property for HDPE structured wall pipes used in underground systems.

As per ***DIN 16961***, stiffness is expressed in S_{R24}, which refers to the pipe's ability to maintain shape 24 hours after testing. HDPE pipes are categorized into stiffness classes based on minimum performance values:

Profiled Pipe Series	2	3	4	5	6
Ring Stiffness S_{R24} (kN/m²)	≥4	≥8	≥16	≥31.5	≥64

*ring stiffness may also be tested according to ***ISO 9969*** upon request

Testing Method (*DIN 16961-2*)

The S_{R24} test is performed on a 1m pipe sample using a parallel-plate compression test:

- The pipe is placed horizontally and compressed vertically between two steel plates.
- A test load is applied and held for 24 hours.
- The internal vertical deflection (Δdiv) must not exceed 3% of the initial internal diameter.
- Ring stiffness is calculated using

$$S_{R24} = \frac{E_{c24} \cdot I}{r^3}$$

Where

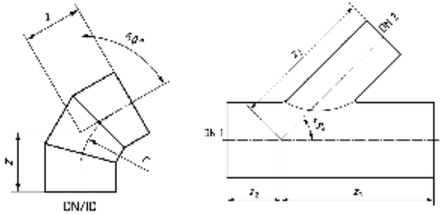
$\mathbf{E_{c\,24}}$ is the creep modulus after 24 h, determined as in 5.2.2, in kN/m²
I is the specific moment of inertia of the pipe profile, in m⁴/m
r is the radius up to the neutral axis of the pipe wall, in m.

High density polyethylene fittings are fabricated according to customers' requirements and drawings to allow quick and easy site installation. Fittings include bends, branches, and backdrops. Fabrications are constructed from hollow profiles to provide a lightweight yet sturdy structure.

Application: fittings, liquid tanks, inspection chambers and manholes for drainage, sewerage and stormwater applications

Product and Testing Standards	
Dimensions	DIN 16961-1 table 6 & 7 and client drawings
Pipe	DIN 16961-1 & 2
Welding [Fabrication]	DVS2207
Leak Test	EN 1610

Example of segmented fittings from *figure 2* and *3* in ***DIN 16961-1***.



Fabrication & Fittings

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Site Services

- Site Supervision
- Pipeline Installation
- Pipeline Welding
- Pipeline Maintenance

FACTORY

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