



**TECHNICAL SERVICES**

**BBBEE 4**

**Steel Mesh  
Reinforced  
HDPE**

# What is Steel Mesh Reinforced HDPE?



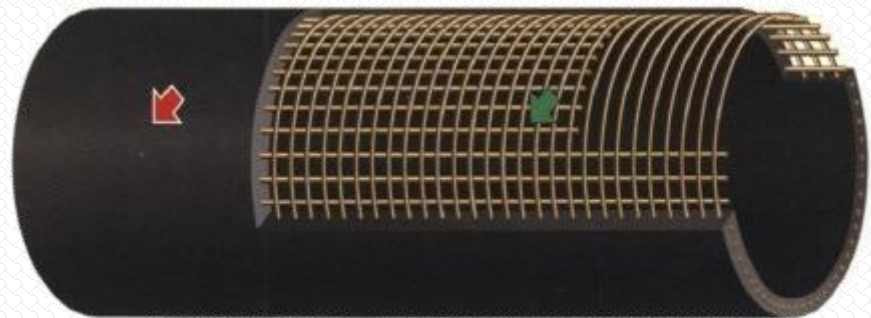
A revolutionary new technology of HDPE pipe that is reinforced by steel mesh. The use of steel mesh in the wall structure of the pipe enhances the structural strength of the pipe.

The steel mesh is made out of a high quality, low carbon steel wire that is welded at every overlapping joint to ensure strength of the mesh and the pipe fitting we use are steel skeleton instead of mesh.



# Steel Reinforced HDPE Pipe & Fitting

- ✓ Meets up to 40 bar pressure depending on size
- ✓ Withstands extreme temperatures & conditions
- ✓ Easy to install
- ✓ Patented design
- ✓ Sizes from DN50-DN600



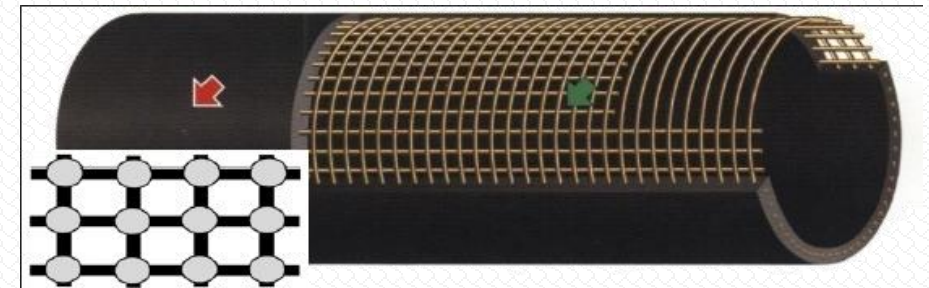
# How are the fittings fastened together?

Fittings are either welded together or fastened with flanges and nuts & bolts.

The welding method, the pipes and fittings welded together using the electrofusion process. The sections are joined together are cleaned up and fitted together after which a portable 23kg welding machine is connected to its ports.

The built in heater coils in the welding machine then melt and merge the inside of the fitting and the outside of the pipe wall, thus creating a very strong homogeneous joint.

- ✓ THE METHOD OF CONNECTION IS EASY TO GRASP
- ✓ CONNECTION IS FIRM & FAST
- ✓ THE WELDING MACHINE IS EASY TO CARRY



# The Benefits

- ✓ RESISTANCE TO IMPACT AND DIMENSIONAL STABILITY AS A RESULT OF THE CARBON STEEL FRAMEWORK
- ✓ CORROSION AND ABRASION RESISTANCE
- ✓ UV RESISTANT
- ✓ CAN WITHSTAND TEMPERATURES AT A MINIMUM OF -20°C AND A MAXIMUM OF UP TO 80°C
- ✓ SMOOTH INNER SURFACE ENSURES LOW RESISTANCE IN TRANSFERRING MATERIAL
- ✓ EXCELLENT HYGIENIC PROPERTIES (FDA APPROVED)
- ✓ REQUIRES A REDUCED INSTALLATION SPACE
- ✓ FLEXIBLE –FIT FOR UNEVEN GROUND
- ✓ WELDING EQUIPMENT IS SMALL AND PORTABLE
- ✓ FEWER WORKERS AND SHORTER LEAD TIME IS REQUIRED



# Factory Guarantee

50 years if the system is placed underground

**GUARANTEE**

30 years if the system is placed above ground

# Theft

Theft has become a rising issue with conventional HDPE systems in South Africa. The meters of the HDPE is stolen and resold.

The reinforced HDPE system cannot be chipped as internal reinforcements will damage the chipping machine.



A case study in Rustenberg reported over 250m stolen over one weekend. Over a period of one month this could result in over 1000m stolen, costing money, time and causing frustrations.

# Specifications

## Specification

			FOR INDUSTRY					FOR WATER SUPPLY					FOR GAS						
			WORKING TEMP= -20-70°C					WORKING TEMP= -20-80°C					WORKING TEMP= -20-40°C						
			WORKING PRESSURE (Mpa)					WORKING PRESSURE (Mpa)					WORKING PRESSURE (Mpa)						
Spec. (Inner Dia.)	Wall Thickness (mm)	Weight (Kg/m)	1	1.6	2	2.5	4	1	1.6	2	2.5	4	0.4	0.5	0.7	0.8	1	1.6	
DN50	11	3.2																	
DN65	11	4.3																	
DN80	12	5.5																	
DN100	12	6.7																	
DN125	12	8.3																	
DN150	12	9.5																	
DN200	12.5	13																	
DN250	12.5	15.7																	
DN300	12.5	20.5																	
DN350	15	30.7																	
DN400	15	34.3																	
DN450	16	42.5																	
DN500	16	47.6																	
DN600	20	n/a																	





# Specifications

Parameters of Steel mesh Reinforced PE Pipe	
Item	Parameter
Linear expansion coefficient (1/°C)	$35.4-35.9 \times 10^{-6}$
Heat reversion (%)	$\leq 0.4$
Ovality (%)	$\leq 5$
Elasticity modulus (Gpa)	2-3
Thermal conductivity at 20°C (w/mk)	0.43
Surface resistance ( $\Omega$ )	$> 10^{13}$
Volume resistance ( $\Omega \cdot \text{cm}$ )	$> 10^{16}$
Electric strength (kv/cm)	700
Absolute roughness (mm)	0.01
Vicat softening temperature (°C)	117.9
Tensile yielding strength (Mpa)	22-23
Shore hardness	60
Impact strength (notched) ( $\text{J}/\text{mm}^2$ )	15
Creep modulus (bend) (Mpa)	800



# Specifications

Allowable Bending Radius			
Specification (inner diameter d)	50-150	200-300	350-600
Allowable bending radius R, mm	$\geq 80d$	$\geq 100d$	$\geq 110d$
Note: R shall not be less than 200d if there is any joint on the pipe section			

Overhead Spacing					
Specification	50-65	80-100	125-150	200-250	300-600
Support Spacing (m)	2.5	3	3.5	4	5



# CONTACT US

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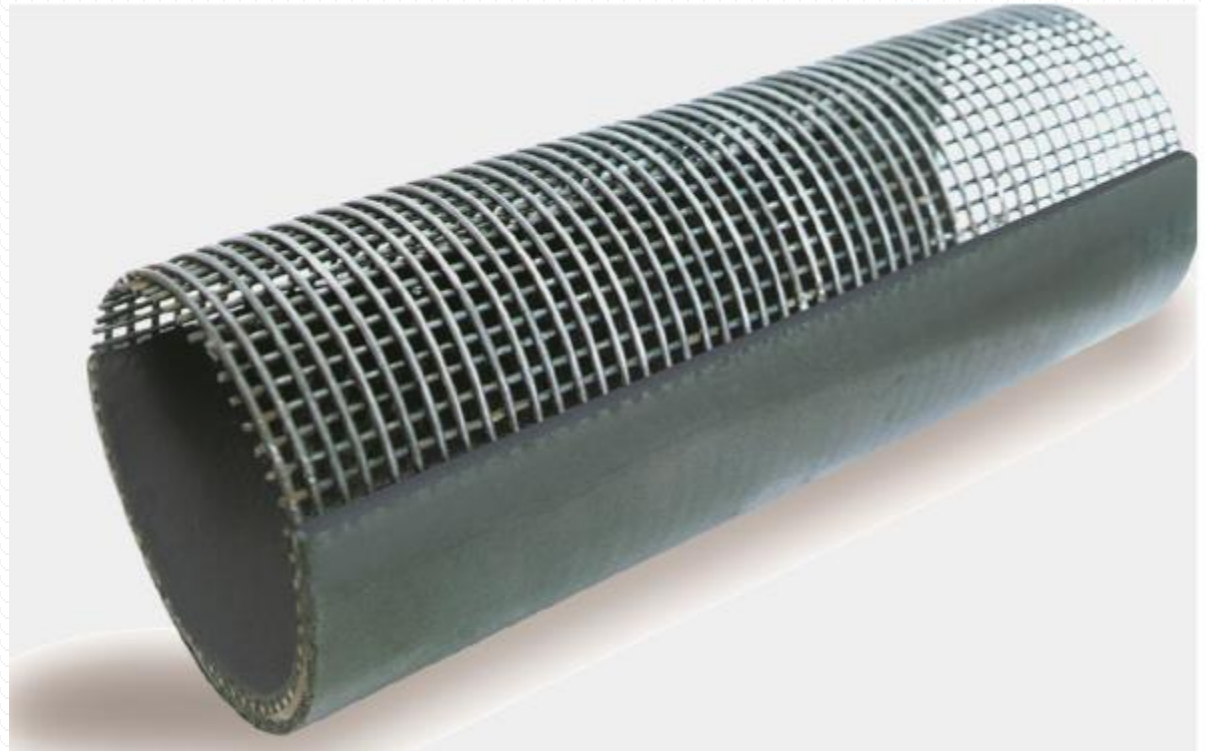
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**THANK YOU**