

# IIL MEGAFLO

(HDPE WATER PIPE)



**megaflo**  
long lasting quality of HDPE pipe

IIL Megaflo is a premium quality, High Density Polyethylene (HDPE) water pipe that is designed for use in municipal and industrial applications and provides a safe, corrosion free piping system for transporting potable water and other fluids.

Made in accordance with Australian Standards AZ/NZS 4130, IIL MEGAFLO is an excellent choice due its proven track record of longevity and reliability in providing a leak free water system that protects precious water resources, especially in arid regions where water is scarce.

## WHOLE LIFE COSTING:

Whole life costing is a concept calculation of the total costs of pipe system throughout its life time. This includes costs of the pipes and components, installation costs and the cost of ownership. When selecting pipe material for project, it is the WHOLE LIFE COST of the alternative systems that should be compared and considered.

### COST OF COMPONENTS:

PE systems are the preferred solution in Europe and other developed countries as the following factors are taken into account:

- PE 100 pipe systems are more commercially attractive than PVC.
- The actual SDR needed to meet the operational pressure may be selected e.g. for 10 bar, use SDR17 PE 100 pipe
- PE Pipes have smoother walls and superior flow characteristics making the system design easier as compared to other materials.
- The cost of PE pipe and fittings ranges from 8% to 15% of the total project cost and considerable savings can be made in the installation and operation of a PE pipeline system.

### COST OF INSTALLATION:

Installation costs comprise of up to 60% of the project cost, these can be significantly reduced by use of PE because of the following:

- PE pipe can be butt welded above the ground, allowing a reduced trench width and narrower trench leads to lower initial digging costs
- A PE pipeline maybe replaced or renewed without digging a trench resulting in considerable cost savings.
- PE pipe is of lighter weight and therefore requires less mechanical equipment onsite.
- PE Pipe flexes around underground services resulting in less fittings being required
- The PE System is a fully welded system and requires no anchor blocks.
- The PE system requires a smaller site footprint and thereby reduces traffic management issues and costs.

### COST OF OWNERSHIP:

The high quality of PE pipe has resulted in PE pipe having the most successful results over any material used for water pressure pipes PE pipe is food grade and ideal for drinking water, especially as compared to PVC.

- Welded PE pipe systems can resist the earth movement that takes place during the lifetime of the network and is therefore particularly suitable in earthquake prone regions.
- PE pipe does not corrode from soil or water means and thereby do not require monitoring and protection costs to be incurred.
- There is no build up in PE pipe bore, this means there is no reduction in flow and no additional cleaning costs are not incurred.
- PE pipe systems have a longer lifetime and therefore lower replacement costs.



**IIL AUSTRALIA**  
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Promising Reliability, for Now and Tomorrow

## Comparative Analysis

### BENEFITS:

HDPE Water pipe offers significant benefits:

**Safety Record:** Chemical inertness ensures that there will be no contamination of water through taste and odor.

**No Leakage:** Weld ability allows for leak free joint over long distances as well as the ability to withstand high axial and bending loads without joint failure

**Long Lifetime:** IIL MEGAFLO can be certified to last at least 50 years and to withstand harsh terrains and climates with no corrosion. IIL MEGAFLO also exhibit excellent weather and abrasion resistance as well as resistance to microorganisms & rodent attack

**Lower Cost of Installation:** IIL MEGAFLO pipes are flexible, light weight, tough and can be coiled thereby enabling easier site handling & installation. PE pipe can be butt-welded above the ground resulting in reduced trench width and saving on initial trench digging costs as well as replacement costs.

**Low Maintenance:** IIL MEGAFLO pipes retain their strength and functionality with minimum maintenance. The pipes are easy to weld into long sections and exhibit resistance to rapid crack propagation. Furthermore, IIL MEGAFLO pipes have a long lifetime in both static and dynamic loads and thereby reduce maintenance costs.

IIL HDPE V/S U-Pvc Pipes		
DESCRIPTION	IIL HDPE PIPE	U-Pvc Pipe
Health Hazard	Non-carcinogenic	Carcinogenic due
Pipe Weight	Light	Light
Transportation	Ease of handling and delivery Saving in freight cost as smaller dia pipes can be inserted in larger dia Pipe with outside diameter up to 75 mm can be coiled	Cannot be delivered in coils
Flexibility	25-40 times of outside diameter	No
Flow Property	C = 150	C = 150
Speed of Pressure Wave in Pipe	200-400 m/sec	200-400 m/sec
Working Temperature	-40°C to 60°C	0°C to 60 °C
Service Life	100 years	10-20 years
Inner Surface	No corrosion No calcium carbonate deposits	Same as HDPE pipe
Chemical Resistance	High resistant to acid and base	Non-resistant to certain solutions
Underground Installation	Welding on ground and laying into trench	Joining in trench
Cost of Laying Transportation and Welding compared with Pipe Cost	Averages 10%	Atleast 20% and that does not include replacement cost of pipes which easily breaks on site
Resistance to Earth Movement	Strong seismic resistance	Cannot Resist
Welding	Butt welding, which is leak proof thermal jointing.	Separate fittings jointed with solution, resulting in leaks more often than not.

### Specification

WALL THICKNESS AS PER STANDARDS DIN 8074/75, ISO 4427								
Nominal size (mm)	GRADE PE-80		GRADE PE-100				Length (meters)	
	PN-06*	PN-08	PN-10	PN-12.5	PN-16	PN-20	Standard	Maximum
	SDR-22	SDR-21	SDR-17	SDR-13.6	SDR-11	SDR-09		
20	-	-	-	1.8	1.9	2.3	100	1000
25	-	-	1.8	1.9	2.3	2.8	100	1000
32	-	-	1.9	2.4	2.9	3.6	100	1000
40	1.9	1.9	2.4	3	3.7	4.5	100	1000
50	2.3	2.4	3	3.7	4.6	5.6	100	500
63	2.9	3	3.8	4.7	5.8	7.1	100	250
75	3.5	3.6	4.5	5.6	6.8	8.4	100	250
90	4.1	4.3	5.4	6.7	8.2	10.1	100	200
110	5	5.3	6.6	8.1	10	12.3	12	12
125	5.7	6	7.4	9.2	11.4	14	12	12
140	6.4	6.7	8.3	10.3	12.7	15.7	12	12
160	7.3	7.7	9.5	11.8	14.6	17.9	12	12
180	8.2	8.6	10.7	13.3	16.4	20.1	12	12
200	9.1	9.6	11.9	14.7	18.2	22.4	12	12
225	10.3	10.8	13.4	16.6	20.5	25.2	12	12
250	11.4	11.9	14.8	18.4	22.7	27.9	12	12
280	-	13.4	16.6	20.6	25.4	31.3	12	12
315	-	15	18.7	23.2	28.6	35.2	12	12
355	-	16.9	21.1	26.1	32.2	39.7	12	12
400	-	19.1	23.7	29.4	36.3	44.7	12	12
450	-	21.5	26.7	33.1	40.9	50.3	12	12
500	-	23.9	29.7	36.8	45.4	55.8	12	12
560	-	26.7	33.2	41.2	50.8	62.5	12	12
630	-	30	37.4	46.3	57.2	-	12	12



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