

MINEFLO AIRFLO DRAINFLO

PVC products for mining and industry

Product range

PRODUCT COLOUR	PRESSURE RATING kPa	OUTSIDE DIAMETER mm	MIN PIPE WALL THICKNESS mm	PIPE MASS kg/m
 	Mineflo 900 kPa Class 9	55	2.4	0.6
		105	3.7	1.8
		155	5.4	4.0
		210	7.3	7.1
		250	8.7	10.1
	Mineflo 1200 kPa Class 12	55	3.2	0.8
		105	4.8	2.4
		155	7.1	5.1
		210	9.7	9.3
	Mineflo 1600 kPa Class 16	250	11.5	13.2
55		4.1	1.0	
105		6.4	3.1	
155		9.4	6.6	
	Airflo 700 kPa Class 7	210	12.7	12.1
		250	15.1	17.0
		55	3.2	0.8
		105	4.8	2.4
		155	7.1	5.1
		210	9.7	9.3
		250	11.5	13.2
	Drainflo	315	14.5	21.0
		355	16.3	26.8
		105	3.1	1.5
		155	4.5	3.3
		210	6.1	6.0
		250	7.3	8.5
315	9.2	13.5		
355	10.4	17.3		

In the rugged, uncompromising world of mining there exists a set of rules and standards which every serious manufacturer and supplier in the industry has come to respect. DPI Plastics as a market leader has through innovation and technology met the challenge of this very demanding industry for more than two decades.

Heat and corrosion in underground mining are vital environmental issues which weigh heavily on mining productivity and on the quality of life and safety at the work face. These issues are efficiently and economically addressed by the inherent thermal and physical properties of DPI Plastics' mining products.

The range consists of Mineflo, Drainflo and Airflo, which are products produced in high impact PVC-M and designed to provide optimum performance under demanding mining conditions.

Mineflo pipes are produced in accordance with the requirements of SANS 1283 specification for PVC-M pipe for cold water services in underground mining.

Pipes are supplied in standard 6.1 metre lengths, complete with Minelok stub ends.

PVC and Polyethylene products for mining and industry

Fittings for mine pipe systems

Cast SG Iron Clamps, Minelok Repair Couplings and PVC Bends

Minelok repair couplings
Cast SG iron

105mm
155mm
210mm
250mm



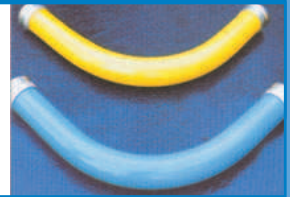
Standard cast iron clamp to be
used on Minelok collars

50mm
80mm
100mm
150mm
200mm
250mm



PVC Class 16 Mineflo bends
and Airflo bends

30°
45°
60°
90°



Mild Steel, Epoxy plastic coated, Galvanised and Lined fittings

Reducing tee with threaded branch



50 x 1"
100 x 2"
150 x 2"
150 x 4"

Bends 45°

50mm
80mm
100mm
150mm
200mm



Flange adaptors

50mm
80mm
100mm
150mm
200mm



Equal tee 90°

50mm
80mm
100mm
150mm
200mm



Saddle

55 x 1"
105 x 1"
105 x 2"
155 x 2"
210 x 2"
250 x 2"



Reducing tee 45°

200 x 100mm
200 x 150mm



Fitting dimensions

Bends 45° and 90°, Equal tee 45° and 90°, Stub end weld on adaptor, End cap		all available 50 - 200mm
Reducer	100 x 50mm, 150 x 50mm, 150 x 80mm, 150 x 100mm, 200 x 100mm, 200 x 150mm	
Reducing tee	80 x 50mm, 100 x 50mm, 100 x 80mm, 150 x 50mm, 150 x 80mm, 150 x 100mm, 200 x 100mm, 200 x 150mm	
Reducing tee 45°	80 x 50mm, 100 x 50mm, 100 x 80mm, 150 x 50mm, 150 x 80mm, 150 x 100mm, 200 x 50mm, 200 x 80mm, 200 x 100mm, 200 x 150mm	
Screwed adaptor	100 x 50mm, 150 x 50mm, 150 x 80mm, 150 x 100mm, 200 x 100mm, 200 x 150mm	
Saddles	55 x 1", 105 x 1", 105 x 2", 155 x 2", 210 x 2", 250 x 2"	

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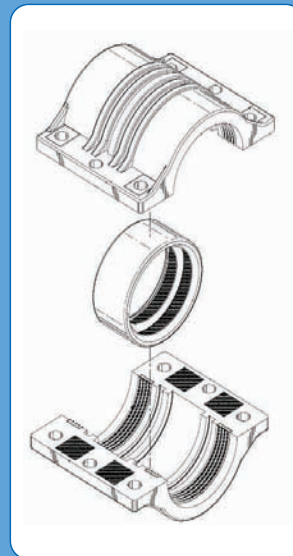
ULTRALOK

PVC-M restrained coupling

DPI Plastics Mineflo pipes are supplied in standard lengths and with steel victaulic collars pre-assembled from the factory. It is sometimes necessary to cut pipes when performing repairs or to make up short lengths of pipe. In such cases one or both steel collars are removed. DPI Plastics has designed the Ultralok coupling to enable safe and easy repair or modifications to Mineflo victaulic pipelines.

- The patented Ultralok steel reinforced PVC-M coupling is designed for applications of up to 16 bar pressure, and is aimed at both the civil and mining industries
- The coupling and components are corrosion protected
- The robust design enhances the gripping effect.

The Ultralok coupling consists of a PVC-M body in two halves, containing metal grip rings, a central rubber seal and six sets of bolts and nuts. This coupling is non-corrosive, easy and quick to install and rated 16 Bar maximum operating pressure for use with water pipelines. It is designed to join two plain ended pipes of the same size.



- High-impact PVC clamp with a unique pressure-enhancing rubber seal
- Couplings available in 105mm and 110mm
- Suitable in high pressure environments, successfully meeting SANS 1283 test requirements.



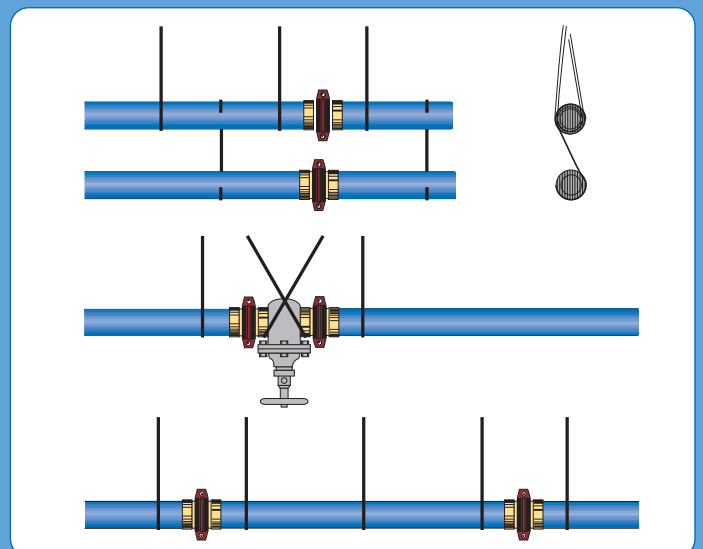
Supporting mining pipes

The Mineflo pipe range must be supported every two metres. Supports must be placed in the centre of the pipe line and on either side of a coupling or fitting, about one metre apart.

Ideal methods of support include: metal 'S' hooks, chain and steel spreader bars. Valves and fittings require additional support to avoid placing the pipeline under stress.

Avoid installing the pipeline in direct contact with the rockface and minimise any external abrasion on the pipe surface. The Mineflo product range possesses a degree of flexibility which allows pipe installations to follow the curves in a haulage way without the use of additional fittings.



For the maximum radius of curvature for PVC mine pipes, kindly visit www.dpiplastics.co.za



PVC and Polyethylene products for mining and industry


DUROFLEX Flexible PVC mining hose



	Description	Units	Size mm - Inside diameter							
			10	12	20	25	32	40	50	
	Standard duty - orange hose									
	Outside diameter	mm	16.0	19.3	27.6	33.6	41.6	-	64.0	
	Inside diameter	mm	10.0	12.5	20.0	25.0	32.0	-	50.0	
	Wall thickness	mm	3.0	3.4	3.8	4.3	4.8	-	7.0	
	Mass/metre	g/m	177	245	413	565	810	-	1824	
	Mass/30m coil	kg	5.3	7.3	12.4	17.0	24.3	-	54.7	
	Working pressure	kPa	1700	1700	1500	1400	1000	-	880	
Burst pressure	kPa	6800	6800	6000	5600	4000	-	3500		
	Heavy duty - green hose									
	Outside diameter	mm	16.4	19.7	28.4	34.8	43.0	52.8	65.0	
	Inside diameter	mm	10.0	12.5	20.0	25.0	32.0	40.0	50.0	
	Wall thickness	mm	3.2	3.6	4.2	4.9	5.5	6.4	7.5	
	Mass/metre	g/m	190	261	460	651	934	1353	1959	
	Mass/30m coil	kg	5.7	7.8	13.8	19.5	28.0	40.6	58.8	
	Working pressure	kPa	1700	1700	1500	1400	1000	880	880	
Burst pressure	kPa	6800	6800	6000	5600	4000	3500	3500		

Safety factor = 4.0 at 23 Degrees; Standard coil lengths – 30 metres

High Density Polyethylene (HDPE) pressure pipe for mining

	PE63 (TYPE IV)	PE80 (TYPE V)	PE100
	Pressure classes	4, 6, 10, 12 and 16 Bar	10, 12, 16 and 20 Bar
	Working pressures	400, 600, 1000, 1200 and 1600 kPa	1000, 1200, 1600 and 2000 kPa
	Design stress	5.0 MPa	6.3 MPa
	Lengths	16 to 50mm supplied in 100 metre coils 63 to 75mm supplied in 50 metre coils 90 to 160mm supplied in 6m straight lengths (other lengths and coils available on order)	

Design guidelines

Physical properties	Units	HDPE
Density	kg/m ³	0.958 x 10 ³
Coefficient of linear expansion	K ⁻¹	16 x 10 ⁻⁵
Thermal conductivity at 20°C	W/m/K	0.50
Specific heat	J/kg/K	2.3 x 10 ³
Softening point (Vicat)	°C	120
Flammability	-	Flammable

Mechanical properties	Units	HDPE
Tensile strength at yield	MPa	26
Elongation at yield	%	10
Modulus of elasticity	MPa	900
Rockwell hardness (Shore)	-	65
Dielectric strength	kV/mm	70

All HDPE pipes are covered by SANS ISO 4427 of 2008.

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