



FLO-TEK[®]

Flow better with us

HDPE *Products*



Company Profile

Flo-Tek the leading manufacturer and supplier of plastic Pipes, Tanks, Fittings and Irrigation products, since 1998.

Radical Investments (Pty) Ltd, trading as Flo-Tek Pipes & Irrigation was established in Botswana in 1998 manufacturing PVC pipes. In July 2003 and June 2004 Flo-Tek commenced manufacturing rotational moulded products and HDPE pipes, respectively.

The company was established in South Africa in 2005 and an HDPE pipe factory was started in Clayville in August 2007. Flo-Tek South Africa has since opened subsidiary companies in Dundee, Port Elizabeth, Nelspruit and Klerksdorp. Flo-Tek also has an established company in Angola and Namibia.

Within our South African and Botswana operations we have trained staff who bring a wealth of knowledge and experience.

Flo-Tek ensures the best quality of products and the highest delivery standards.

www.flotekafrika.com

Flo-Tek's core business is the manufacturing and distribution of PVC-U and PVC-M Pressure Pipes & Fittings, HDPE Pipes & Fittings, Sewer Pipes & Fittings, Irrigation and Rotomoulded products. We also produce Borehole Casings, Screens and PVC Cable Ducts.

Our ISO 9001 certified factories in Botswana and South Africa enable us to manufacture our pipes and tanks as well as to distribute across the SADC region. Our factories have fully equipped laboratories which ensure Flo-Tek manufactures to SANS, BOBS ISO and SAPPMA specifications.

Broad-Based Black Economic Empowerment (BBBEE)

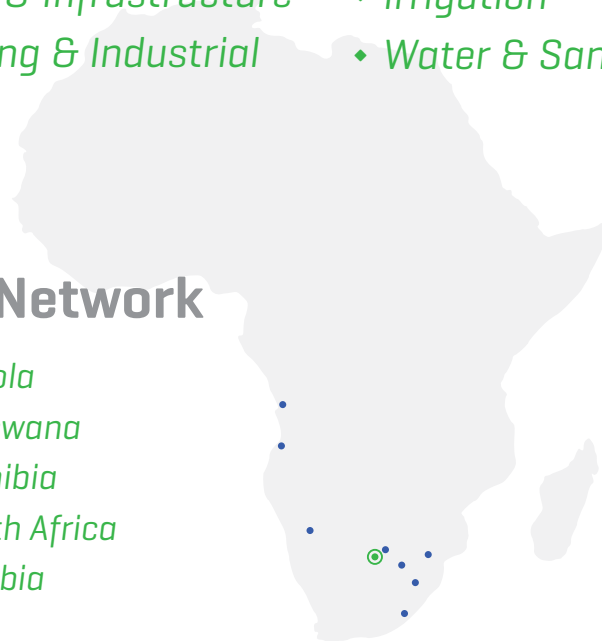
Flo-Tek South Africa is a BEE compliant company. The principles of broad-based BEE, through stakeholder empowerment, have also been integrated into how we do business, and how we can assist and support our Clients in how they do their business. The empowerment of women and the development of skills at lower levels of the organization to facilitate career and personal growth opportunities are the particular areas that will continue to receive attention and focus within our own business.

Sectors Serviced

- ♦ *Civil & Infrastructure*
- ♦ *Mining & Industrial*
- ♦ *Irrigation*
- ♦ *Water & Sanitation*

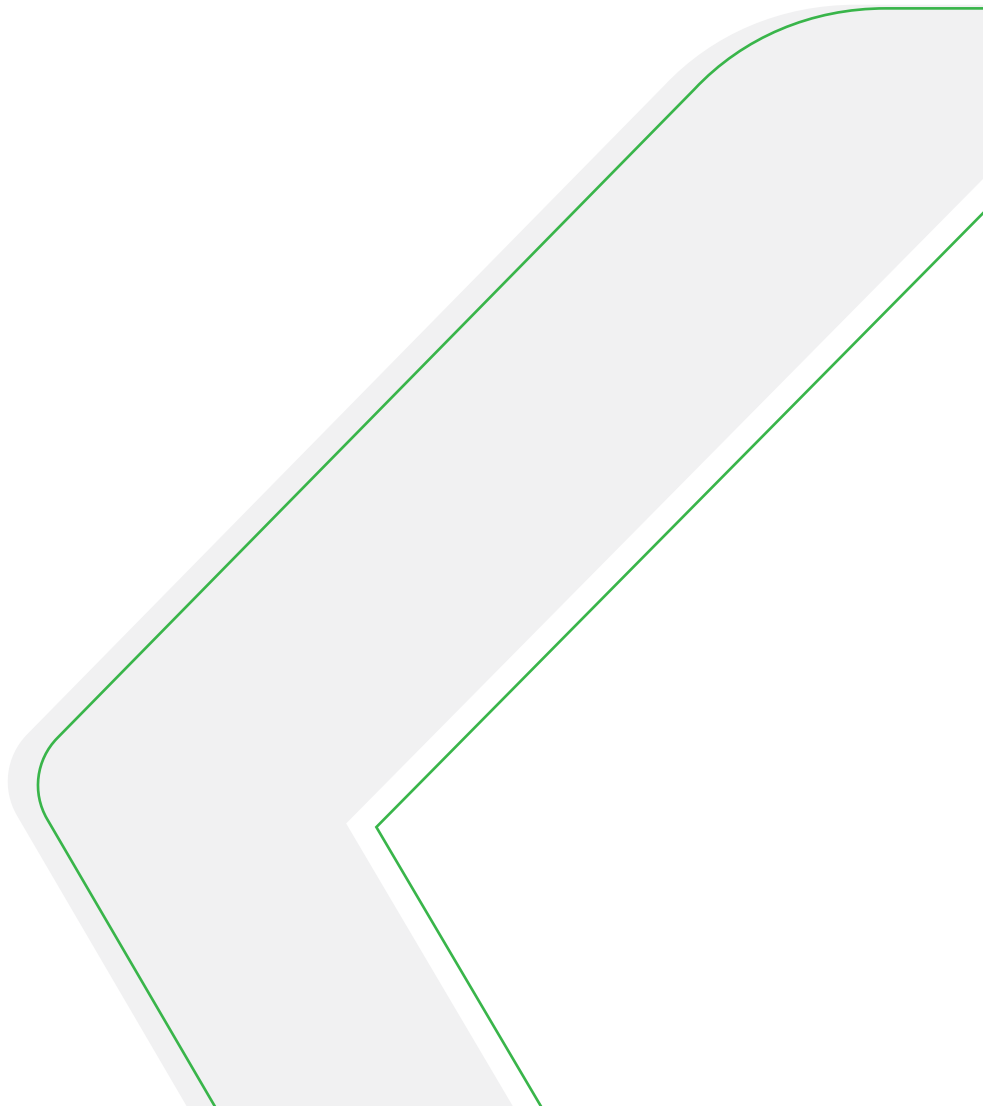
Our Network

- *Angola*
- *Botswana*
- *Namibia*
- *South Africa*
- *Zambia*



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OVERVIEW

Flo-Tek manufactures a range of HDPE products for various applications. Our products range from 20mm Diameter to 1000mm Diameter with a pressure class of 04 to 34 [Varies for different sizes].

We also have a variety of fittings for use with our pipes, including valves, mouldied and fabricated fittings. On-site installation services is available.

Polymers

Polymers for pressure pipe applications have improved enormously over the last fifty years since they were first manufactured. The current polymers, PE80 were developed in the 1980's and called "second generation" polymers and PE100, developed in the 1990's and called a "third generation" polymers.

PE80 has a MRS (Minimum Require Strength) of 8MPa and an allowable design stress [σ] of 6.3MPa with a Safety Factor of 1.25. PE100 has a MRS of 10 MPa and an allowable design stress [σ] of 8MPa with a Safety Factor of 1.25; also called the Design Factor [C] according to ISO.

The PE80 and PE100 polymers are usually produced in two consecutive reactors giving two peaks in the molecular weight distribution graph and are called bimodal HDPE compared to conventional unimodal HDPE. The "third generation" I-IDPE polymers have higher strength without reducing processability and they have higher stress crack resistance than the "second generation" polymers; particularly important for gas pipelines.

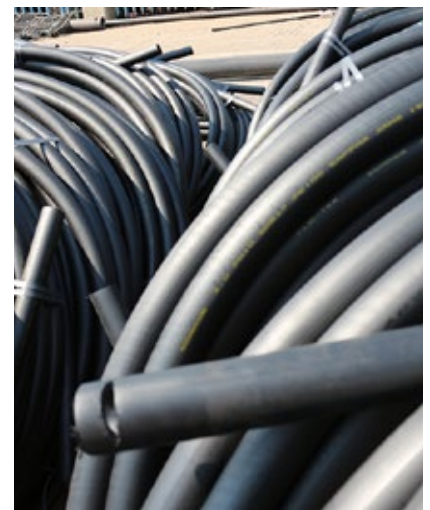
The stress/time curves, sometimes called creep/rupture curves or regression curves, for PE80 exhibit a bend, or "knee", in the curves for elevated temperatures. This bend is at the point between the flatter portion and the steeper portion of the curves and is the transition between ductile failure in the former and brittle failure in the latter.

The stress/time curves for "third generation" bimodal I-IDPE polymers exhibit no "knee", therefore, even long term failures will be the ductile mode described above and the curves at elevated temperatures provide a longer time to burst than the older grades.



Features & Benefits

- High impact strength
- Excellent corrosion resistance
- Very good chemical resistance
- Excellent abrasion resistance
- Chemically inert and unaffected by acidic soil conditions
- Biologically inert to micro organisms
- Can be fusion welded, ensuring absolutely leak free joints
- Very smooth bore and low friction loss
- Low mass [about 1/8 of steel] and ease of handling
- High flexibility, enabling long lengths to be coiled
- Inherent resistance to effects of ground movement
- Non-toxic and safe for drinking water
- LOW installation cost and maintenance free
- Large range of sizes, from 16mm - 2000mm
- Very suitable for rehabilitation of old pipelines with trenchless technologies



Applications

Flo-Tek's pressure pipe produced under this standard is applicable in the following:

- Mining
- Waterworks
- Irrigation
- Gaslines
- Plumbing

PE pipe systems have been used successfully in numerous applications, general as well as highly specialised, in industrial and civil sectors. The most common applications are the following:

1. Compressed air and ventilation air
2. Protection of electrical and telephone cables
3. High temperature liquids and gases
4. Gas, petroleum and its derivatives
5. Corrosive water water and effluents
6. Potable water
7. Pneumatic transport
8. Drainage and sub-soil drainage
9. Dewatering

Water Supply

Polyethylene (PE) pipes offer distinct advantages over other materials (eg. steel, fibre cement, concrete, etc.) especially when used for water supply and in areas with a high water table, in which their installation is simplified by jointing outside the trench.

Some examples:

- Potable water reticulation
- Sewage reticulation
- Water works & water treatment plants

Furthermore, because of their flexibility and low weight, they are ideal for use in underwater environments in various applications, such as marine outfalls.



PE Pipes have yielded excellent results when used in mining applications. Owing to their high abrasion and corrosion resistance, ease of handling and installation and their high mechanical strength, they are ideal for:

- Tailings (slurries and effluents)
- Irrigating leaching piles
- Acid and alkaline solutions
- Concentrate pipelines (reduction works and drainage)
- Fire fighting installations
- Drinking water lines
- Chilled water lines
- Compressed air lines
- Ventilation ducting

Agriculture / Irrigation

PE pipes are used in agriculture and domestic / commercial irrigation with either non-permanent or permanent coupling systems. Due to the flexibility of the pipe, it can be coiled, which facilitates transport (pipe sizes upto 110mm can be supplied in 50m, 100m or longer coils).





PIPES

PIPES

SANS 4427-1

We manufacture PE100 HDPE piping as per SANS 4427. We currently manufacture from 20mm-1000mm diameter pipes. We are also a proud member of SAPPMA.

Flow Rates, Velocities & Friction Losses

Approximate flow rates, flow velocities and friction losses in straight HDPE pressure pipes without fittings.

Physical and Mechanical Properties

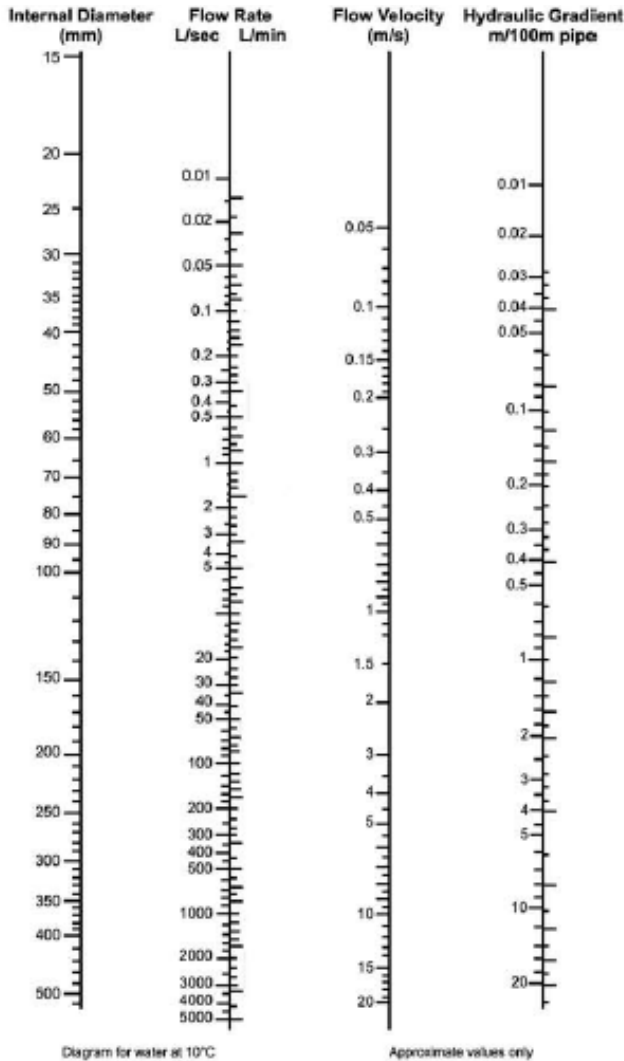
Physical Properties

| Physical Properties | Test Mode | Values | Unit |
|----------------------------------|-------------|----------|--------------------|
| Density | ISO 1183 | 0.958 | g/cm ³ |
| Melt Flow Index [190°C / 21.6Kg] | ISO 1133 | 6.5 | g/10 min. |
| Melt Flow Index [190°C/5Kg] | ISO 1133 | 0,23 | g/10 min. |
| Vicat Softening point [5Kg] | ISO 306 | 67 | °C |
| Crystalline Melting Range | ISO 3146-85 | 130- 133 | °C |
| Viscosity Number | ISO 1628-3 | 390 | cm ³ /g |

Mechanical Properties

| Physical Properties | Test Mode | Values | Unit |
|-----------------------------------|-------------|--------|-------------------|
| Shore D. Hardness | ISO 868 | 61 | - |
| Tensile @ Yield | ISO 527 | 26 | MPa |
| Ultimate Tensil | ISO 527 | 35 | MPa |
| Ultimate Elongation | ISO 527 | >600 | % |
| Elastic Modules | ISO 527 | 900 | MPa |
| Flexural Stress [3.5% Deflection] | ISO 178 | 19 | MPa |
| Notched Impact [Charpy] acN 23°C | ISO 119 | 20 | KJ/m ³ |
| Notched Impact [Charpy] acN 30°C | ISO 179 | 6 | KJ/m ³ |
| Thermal Stability 210°C | ISO 10837 | >60 | min. |
| Carbon Black Content | ASTM D 1603 | >2 | % |





Pressure Pipe Dimensions

| Nominal Size DN/DD | Nominal outside diameter | Mean outside diameter | | Maximum out-of-roundness (ovality) |
|-----------------------|-----------------------------|-----------------------|-------|------------------------------------------|
| | | min | max | |
| 20 | 20 | 20.0 | 20.3 | 1.2 |
| 25 | 25 | 25.0 | 25.3 | 1.2 |
| 32 | 32 | 32.0 | 32.3 | 1.3 |
| 40 | 40 | 40.0 | 40.4 | 1.4 |
| 50 | 50 | 50.0 | 50.4 | 1.4 |
| 63 | 63 | 63.0 | 63.4 | 1.5 |
| 75 | 75 | 75.0 | 75.5 | 1.6 |
| 90 | 90 | 90.0 | 90.6 | 1.8 |
| 110 | 110 | 110.0 | 110.7 | 2.2 |
| 125 | 125 | 125.0 | 125.8 | 2.5 |
| 140 | 140 | 140.0 | 140.9 | 2.8 |
| 160 | 160 | 160.0 | 161.0 | 3.2 |
| 180 | 180 | 180.0 | 181.1 | 3.6 |
| 200 | 200 | 200.0 | 201.2 | 4.0 |
| 225 | 225 | 225.0 | 226.4 | 4.5 |
| 250 | 250 | 250.0 | 251.5 | 5.0 |
| 280 | 280 | 280.0 | 281.7 | 9.8 |
| 315 | 315 | 315.0 | 316.9 | 11.1 |
| 355 | 356 | 355.0 | 357.2 | 12.5 |
| 400 | 401 | 400.0 | 402.4 | 14 |
| 450 | 451 | 450.0 | 452.7 | 15.6 |
| 500 | 502 | 500.0 | 503.0 | 17.5 |
| 560 | 562 | 560.0 | 563.4 | 19.6 |
| 630 | 632 | 630.0 | 633.8 | 22.1 |

How to use a Nomogram

You will need a straight edge and at least two of the four values. Place the straight edge across all four columns so that it intersects the two known values. Read off the other two values.



Wall Thickness & Mass/Metre

| PE63 (5MPa) SABS 533 | | | PN 2.5 | | | | PN 3.2 | | | | PN 4 | | | |
|--------------------------|---------|--------|----------------|---------|------|--------|----------------|---------|------|--------|----------------|---------|------|---------|
| PE80 (6.3MPa) ISO 4427 | | | PN 3.2 | | | | PN 4 | | | | PN 5 | | | |
| PE100 (8MPa) ISO 4427 | | | PN 4 | | | | PN 5 | | | | PN 6.3 | | | |
| Standard Dimension Ratio | | | SDR 41 | | | | SDR 33 | | | | SDR 26 | | | |
| OO | | | WALL THICKNESS | | | MASS | WALL THICKNESS | | | MASS | WALL THICKNESS | | | MASS |
| MIN | AVE | MAX | MIN | AVE | MAX | | MIN | AVE | MAX | | MIN | AVE | MAX | |
| mm | Flo-Tek | mm | mm | Flo-Tek | mm | kg/m | mm | Flo-Tek | mm | kg/m | mm | Flo-Tek | mm | kg/m |
| 16.0 | 16.15 | 16.3 | | | | | | | | | | | | |
| 20.0 | 20.15 | 20.3 | | | | | | | | | | | | |
| 25.0 | 25.15 | 25.3 | | | | | | | | | | | | |
| 32.0 | 32.15 | 32.3 | | | | | | | | | | | | |
| 40.0 | 40.20 | 40.4 | BLUE | NON | SABS | PIPES | | | | | | | | |
| 50.0 | 50.20 | 50.4 | 2.0 | 2.15 | 2.3 | 0.311 | | | | | 2.0 | 2.15 | 2.3 | 0.311 |
| 63.0 | 63.20 | 63.4 | 2.0 | 2.15 | 2.3 | 0.395 | | | | | 2.5 | 2.70 | 2.9 | 0.492 |
| 75.0 | 75.25 | 75.5 | 2.0 | 2.15 | 2.3 | 0.473 | | | | | 2.9 | 3.10 | 3.3 | 0.673 |
| 90.0 | 90.30 | 90.6 | 2.2 | 2.35 | 2.5 | 0.622 | | | | | 3.5 | 3.75 | 4.0 | 0.977 |
| 110.0 | 110.35 | 110.7 | 2.7 | 2.90 | 3.1 | 0.936 | | | | | 4.2 | 4.50 | 4.8 | 1.434 |
| 125.0 | 125.40 | 125.8 | 3.1 | 3.33 | 3.6 | 1.223 | | | | | 4.8 | 5.10 | 5.4 | 1.847 |
| 140.0 | 140.45 | 140.9 | 3.4 | 3.66 | 3.9 | 1.508 | | | | | 5.4 | 5.75 | 6.1 | 2.331 |
| 160.0 | 160.50 | 161.0 | 3.9 | 4.21 | 4.5 | 1.979 | | | | | 6.2 | 6.60 | 7.0 | 3.057 |
| 180.0 | 180.55 | 181.1 | 4.4 | 4.75 | 5.1 | 2.514 | | | | | 6.9 | 7.30 | 7.7 | 3.806 |
| 200.0 | 200.60 | 201.2 | 4.9 | 5.25 | 5.6 | 3.085 | | | | | 7.7 | 8.15 | 8.6 | 4.721 |
| 225.0 | 225.70 | 226.4 | 5.5 | 5.90 | 6.3 | 3.905 | | | | | 8.6 | 9.10 | 9.6 | 5.932 |
| 250.0 | 250.75 | 251.8 | 6.1 | 6.56 | 7.0 | 4.820 | | | | | 9.6 | 10.15 | 10.7 | 7.350 |
| 280.0 | 280.85 | 281.7 | 6.9 | 7.38 | 7.9 | 6.070 | | | | | 10.7 | 11.30 | 11.9 | 9.167 |
| 315.0 | 315.95 | 316.9 | 7.7 | 8.15 | 8.6 | 7.550 | 9.7 | 10.25 | 10.8 | 9.430 | 12.1 | 12.80 | 13.5 | 11.678 |
| 355.0 | 356.10 | 357.2 | 8.7 | 9.20 | 9.7 | 9.605 | 10.9 | 11.50 | 12.1 | 11.927 | 13.6 | 14.35 | 15.1 | 14.760 |
| 400.0 | 401.20 | 402.4 | 9.8 | 10.35 | 10.9 | 12.175 | 12.3 | 13.00 | 13.7 | 15.188 | 15.3 | 16.15 | 17.0 | 18.716 |
| 450.0 | 451.35 | 452.7 | 11.0 | 11.60 | 12.2 | 15.352 | 13.8 | 14.55 | 15.3 | 19.128 | 17.2 | 18.15 | 19.1 | 23.664 |
| 500.0 | 501.50 | 503.0 | 12.3 | 13.00 | 13.7 | 19.113 | 15.3 | 16.15 | 17.0 | 23.591 | 19.1 | 20.15 | 21.2 | 29.191 |
| 560.0 | 561.70 | 563.4 | 13.7 | 14.45 | 15.2 | 23.800 | 17.2 | 18.15 | 19.1 | 29.691 | 21.4 | 22.55 | 23.7 | 36.591 |
| 630.0 | 631.90 | 633.8 | 15.4 | 16.25 | 17.1 | 30.109 | 19.3 | 20.35 | 21.4 | 37.455 | 24.1 | 25.40 | 26.7 | 46.364 |
| 710.0 | 713.20 | 716.4 | 17.4 | 18.35 | 19.3 | 38.374 | 21.8 | 22.95 | 24.1 | 47.676 | 27.2 | 28.65 | 30.1 | 59.026 |
| 800.0 | 803.60 | 807.2 | 19.6 | 20.65 | 21.7 | 48.660 | 24.5 | 25.80 | 27.1 | 60.395 | 30.6 | 32.20 | 33.8 | 74.757 |
| 900.0 | 904.05 | 908.1 | 22.0 | 23.15 | 24.3 | 61.375 | 27.6 | 29.05 | 30.5 | 76.501 | 34.4 | 36.35 | 38.3 | 94.927 |
| 1000.0 | 1004.50 | 1009.0 | 24.5 | 25.80 | 27.1 | 75.995 | 30.6 | 32.05 | 33.5 | 93.802 | 38.2 | 40.20 | 42.2 | 116.668 |

Wall Thickness & Mass/Metre

| PE63 [5MPa] SABS 533 | | | PN 5 | | | | PN 6.3 | | | | PN 8 | | | |
|--------------------------|---------|--------|----------------|---------|------|---------|----------------|---------|------|---------|----------------|---------|------|---------|
| PE80 [6.3MPa] ISO 4427 | | | PN 6.3 | | | | PN 8 | | | | PN 10 | | | |
| PE100 [8MPa] ISO 4427 | | | PN 8 | | | | PN 10 | | | | PN 12.5 | | | |
| Standard Dimension Ratio | | | SDR 21 | | | | SDR 17 | | | | SDR 13.6 | | | |
| OD | | | WALL THICKNESS | | | MASS | WALL THICKNESS | | | MASS | WALL THICKNESS | | | MASS |
| MIN | AVE | MAX | MIN | AVE | MAX | | MIN | AVE | MAX | | MIN | AVE | MAX | |
| mm | Flo-Tek | mm | mm | Flo-Tek | mm | kg/m | mm | Flo-Tek | mm | kg/m | mm | Flo-Tek | mm | kg/m |
| 16.0 | 16.15 | 16.3 | | | | | | | | | | | | |
| 20.0 | 20.15 | 20.3 | | | | | | | | | | | | |
| 25.0 | 25.15 | 25.3 | | | | | | | | | 2.0 | 2.15 | 2.3 | 0.149 |
| 32.0 | 32.15 | 32.3 | | | | | 2.0 | 2.15 | 2.3 | 0.194 | 2.4 | 2.60 | 2.8 | 0.231 |
| 40.0 | 40.20 | 40.4 | 2.0 | 2.15 | 2.3 | 0.246 | 2.4 | 2.60 | 2.8 | 0.294 | 3.0 | 3.25 | 3.5 | 0.361 |
| 50.0 | 50.20 | 50.4 | 2.4 | 2.60 | 2.8 | 0.372 | 3.0 | 3.20 | 3.4 | 0.453 | 3.7 | 3.95 | 4.2 | 0.550 |
| 63.0 | 63.20 | 63.4 | 3.0 | 3.20 | 3.4 | 0.578 | 3.8 | 4.05 | 4.3 | 0.721 | 4.7 | 5.00 | 5.3 | 0.876 |
| 75.0 | 75.25 | 75.5 | 3.6 | 3.85 | 4.1 | 0.827 | 4.5 | 4.80 | 5.1 | 1.018 | 5.6 | 5.95 | 6.3 | 1.241 |
| 90.0 | 90.30 | 90.6 | 4.3 | 4.60 | 4.9 | 1.186 | 5.4 | 5.75 | 6.1 | 1.463 | 6.7 | 7.10 | 7.5 | 1.778 |
| 110.0 | 110.35 | 110.7 | 5.3 | 5.65 | 6.0 | 1.780 | 6.6 | 7.00 | 7.4 | 2.177 | 8.1 | 8.60 | 9.1 | 2.634 |
| 125.0 | 125.40 | 125.8 | 6.0 | 6.35 | 6.7 | 2.278 | 7.4 | 7.85 | 8.3 | 2.91 | 9.2 | 9.75 | 10.3 | 3.394 |
| 140.0 | 140.45 | 140.9 | 6.7 | 7.10 | 7.5 | 2.849 | 8.3 | 8.80 | 9.3 | 3.487 | 10.3 | 10.90 | 11.5 | 4.250 |
| 160.0 | 160.50 | 161.0 | 7.7 | 8.15 | 8.6 | 3.737 | 9.5 | 10.05 | 10.6 | 4.551 | 11.8 | 12.45 | 13.1 | 5.547 |
| 180.0 | 180.55 | 181.1 | 8.6 | 9.10 | 9.6 | 4.696 | 10.7 | 11.30 | 11.9 | 5.756 | 13.3 | 14.05 | 14.8 | 7.041 |
| 200.0 | 200.60 | 201.2 | 9.6 | 10.15 | 10.7 | 5.818 | 11.9 | 12.55 | 13.2 | 7.103 | 14.7 | 15.50 | 16.3 | 8.635 |
| 225.0 | 225.70 | 226.4 | 10.8 | 11.40 | 12.0 | 7.353 | 13.4 | 14.15 | 14.9 | 9.009 | 16.6 | 17.50 | 18.4 | 10.966 |
| 250.0 | 250.75 | 251.5 | 11.9 | 12.55 | 13.2 | 8.997 | 14.8 | 15.60 | 16.4 | 11.040 | 18.4 | 19.40 | 20.4 | 13.508 |
| 280.0 | 280.85 | 281.7 | 13.4 | 14.15 | 14.9 | 11.358 | 16.6 | 17.50 | 18.4 | 13.870 | 20.6 | 21.70 | 22.8 | 16.925 |
| 315.0 | 315.95 | 316.9 | 15.0 | 15.80 | 16.6 | 14.273 | 18.7 | 19.70 | 20.7 | 17.565 | 23.2 | 24.45 | 25.7 | 21.450 |
| 355.0 | 356.10 | 357.2 | 16.9 | 17.80 | 18.7 | 18.123 | 21.1 | 22.25 | 23.4 | 22.356 | 26.1 | 27.50 | 28.9 | 27.197 |
| 400.0 | 401.20 | 402.4 | 19.1 | 20.15 | 21.2 | 23.109 | 23.7 | 24.95 | 26.2 | 28.253 | 29.4 | 30.95 | 32.5 | 34.488 |
| 450.0 | 451.35 | 452.7 | 21.8 | 22.65 | 23.8 | 29.224 | 26.7 | 28.10 | 29.8 | 35.795 | 33.1 | 34.85 | 36.6 | 43.685 |
| 500.0 | 501.50 | 503.0 | 23.9 | 25.15 | 26.4 | 36.056 | 29.7 | 31.25 | 32.8 | 44.228 | 36.8 | 38.70 | 40.6 | 53.904 |
| 560.0 | 561.70 | 563.4 | 26.7 | 28.10 | 29.5 | 45.127 | 33.2 | 34.95 | 36.7 | 55.407 | 41.2 | 43.35 | 45.5 | 67.628 |
| 630.0 | 631.90 | 633.8 | 30.0 | 31.55 | 33.1 | 57.006 | 37.4 | 39.35 | 41.3 | 70.175 | 46.3 | 48.70 | 51.1 | 85.479 |
| 710.0 | 713.20 | 716.4 | 33.9 | 35.65 | 37.4 | 72.697 | 42.1 | 44.30 | 46.5 | 89.183 | 52.2 | 54.90 | 57.6 | 108.771 |
| 800.0 | 803.60 | 807.2 | 38.1 | 40.10 | 42.1 | 92.144 | 47.4 | 49.85 | 52.3 | 113.086 | 58.8 | 61.80 | 64.8 | 137.972 |
| 900.0 | 904.05 | 908.1 | 42.9 | 45.10 | 47.3 | 116.590 | 53.3 | 56.05 | 58.8 | 143.050 | 66.2 | 69.60 | 73.0 | 174.793 |
| 1000.0 | 1004.50 | 1009.0 | 47.7 | 50.15 | 52.6 | 144.043 | 59.3 | 62.35 | 65.4 | 176.796 | 72.5 | 76.20 | 79.9 | 212.892 |

Wall Thickness & Mass/Metre

| PE63 [5MPa] SABS 533 | | | PN 10 | | | | PN 12.5 | | | |
|--------------------------|---------|--------|----------------|---------|------|---------|----------------|---------|------|---------|
| PE80 [6.3MPa] ISO 4427 | | | PN 12.5 | | | | PN 16 | | | |
| PE100 [8MPa] ISO 4427 | | | PN 16 | | | | PN 20 | | | |
| Standard Dimension Ratio | | | SDR 11 | | | | SDR 9 | | | |
| OD | | | WALL THICKNESS | | | MASS | WALL THICKNESS | | | MASS |
| MIN | AVE | MAX | MIN | AVE | MAX | | MIN | AVE | MAX | |
| mm | FLO-TEK | mm | mm | FLO-TEK | mm | kg/m | mm | FLO-TEK | mm | kg/m |
| 16.0 | 16.15 | 16.3 | | | | | 2.0 | 2.15 | 2.3 | 0.091 |
| 20.0 | 20.15 | 20.3 | 2.0 | 2.15 | 2.3 | 0.116 | 2.3 | 2.50 | 2.7 | 0.133 |
| 25.0 | 25.15 | 25.3 | 2.3 | 2.50 | 2.7 | 0.170 | 3.0 | 3.20 | 3.4 | 0.211 |
| 32.0 | 32.15 | 32.3 | 3.0 | 3.20 | 3.4 | 0.279 | 3.6 | 3.85 | 4.1 | 0.328 |
| 40.0 | 40.20 | 40.4 | 3.7 | 3.95 | 4.2 | 0.431 | 4.5 | 4.80 | 5.1 | 0.511 |
| 50.0 | 50.20 | 50.4 | 4.6 | 4.90 | 5.2 | 0.668 | 5.6 | 5.95 | 6.3 | 0.792 |
| 63.0 | 63.20 | 63.4 | 5.8 | 6.15 | 6.5 | 1.056 | 7.1 | 7.55 | 8.0 | 1.265 |
| 75.0 | 75.25 | 75.5 | 6.8 | 7.20 | 7.6 | 1.475 | 8.4 | 8.90 | 9.4 | 1.777 |
| 90.0 | 90.30 | 90.6 | 8.2 | 8.70 | 9.2 | 2.137 | 10.1 | 10.70 | 11.3 | 2.563 |
| 110.0 | 110.35 | 110.7 | 10.0 | 10.55 | 11.1 | 3.169 | 12.3 | 13.00 | 13.7 | 3.809 |
| 125.0 | 125.40 | 125.8 | 11.4 | 12.05 | 12.7 | 4.111 | 14.0 | 14.80 | 15.6 | 4.926 |
| 140.0 | 140.45 | 140.9 | 12.7 | 13.40 | 14.1 | 5.124 | 15.7 | 16.55 | 17.4 | 6.171 |
| 160.0 | 160.50 | 161.0 | 14.6 | 15.40 | 16.2 | 6.725 | 17.9 | 18.85 | 19.8 | 8.036 |
| 180.0 | 180.55 | 181.1 | 16.4 | 17.30 | 18.2 | 8.500 | 20.1 | 21.20 | 22.3 | 10.167 |
| 200.0 | 200.60 | 201.2 | 18.2 | 19.20 | 20.2 | 10.482 | 22.4 | 23.60 | 24.8 | 12.572 |
| 225.0 | 225.70 | 226.4 | 20.5 | 21.60 | 22.7 | 13.268 | 25.2 | 26.55 | 27.9 | 15.913 |
| 250.0 | 250.75 | 251.5 | 22.7 | 23.90 | 25.1 | 16.317 | 27.9 | 29.35 | 30.8 | 19.557 |
| 280.0 | 280.85 | 281.7 | 25.4 | 26.75 | 28.1 | 20.457 | 31.3 | 32.95 | 34.6 | 24.584 |
| 315.0 | 315.95 | 316.9 | 28.6 | 30.10 | 31.6 | 25.895 | 35.2 | 37.05 | 38.9 | 31.099 |
| 355.0 | 356.10 | 357.2 | 32.2 | 33.90 | 35.6 | 32.873 | 39.7 | 41.75 | 43.8 | 39.499 |
| 400.0 | 401.20 | 402.4 | 36.3 | 38.20 | 40.1 | 41.734 | 44.7 | 47.00 | 49.3 | 50.103 |
| 450.0 | 451.35 | 452.7 | 40.9 | 43.00 | 45.1 | 52.846 | 50.3 | 52.90 | 55.5 | 63.437 |
| 500.0 | 501.50 | 503.0 | 45.4 | 47.75 | 50.1 | 65.209 | 55.8 | 58.65 | 61.5 | 78.170 |
| 560.0 | 561.70 | 563.4 | 50.8 | 53.40 | 56.0 | 81.691 | 62.5 | 65.70 | 68.9 | 98.076 |
| 630.0 | 631.90 | 633.8 | 57.2 | 60.15 | 63.1 | 103.504 | 70.3 | 73.90 | 77.5 | 124.106 |
| 710.0 | 713.20 | 716.4 | 64.5 | 67.80 | 71.1 | 131.696 | 79.3 | 83.35 | 87.4 | 158.000 |
| 800.0 | 803.60 | 807.2 | 72.6 | 76.30 | 80.0 | 167.014 | 89.3 | 93.85 | 98.4 | 200.472 |
| 900.0 | 904.05 | 908.1 | 81.7 | 85.85 | 90.0 | 211.405 | | | | |
| 1000.0 | 1004.50 | 1009.0 | 90.2 | 94.80 | 99.4 | 259.550 | | | | |

Wall Thickness & Mass/Metre

| PE63 [5MPa] SABS 533 | | | PN 16 | | | | PN 20 | | | |
|--------------------------|---------|--------|----------------|---------|------|--------|----------------|---------|------|--------|
| PE80 [6.3MPa] ISO 4427 | | | PN 20 | | | | PN 25 | | | |
| PE100 [8MPa] ISO 4427 | | | PN 25 | | | | PN 34 | | | |
| Standard Dimension Ratio | | | SDR 7.4 | | | | SDR 6 | | | |
| OD | | | WALL THICKNESS | | | MASS | WALL THICKNESS | | | MASS |
| MIN | AVE | MAX | MIN | AVE | MAX | | MIN | AVE | MAX | |
| mm | FLO TEK | mm | mm | FLO TEK | mm | kg/m | mm | FLO TEK | mm | kg/m |
| 16.0 | 16.15 | 16.3 | 2.3 | 2.50 | 2.7 | 0.103 | 3.0 | 3.20 | 3.4 | 0.125 |
| 20.0 | 20.15 | 20.3 | 3.0 | 3.20 | 3.4 | 0.163 | 3.4 | 3.65 | 3.9 | 0.181 |
| 25.0 | 25.15 | 25.3 | 3.5 | 3.75 | 4.0 | 0.242 | 4.2 | 4.40 | 4.6 | 0.275 |
| 32.0 | 32.15 | 32.3 | 4.4 | 4.70 | 5.0 | 0.388 | 5.4 | 5.75 | 6.1 | 0.457 |
| 40.0 | 40.20 | 40.4 | 5.5 | 5.85 | 6.2 | 0.605 | 6.7 | 7.10 | 7.5 | 0.707 |
| 50.0 | 50.20 | 50.4 | 6.9 | 7.30 | 7.7 | 0.943 | 8.3 | 8.80 | 9.3 | 1.096 |
| 63.0 | 63.20 | 63.4 | 8.6 | 9.10 | 9.6 | 1.482 | 10.5 | 11.10 | 11.7 | 1.741 |
| 75.0 | 75.25 | 75.5 | 10.3 | 10.90 | 11.5 | 2.111 | 12.5 | 13.20 | 13.9 | 2.465 |
| 90.0 | 90.30 | 90.6 | 12.3 | 13.00 | 13.7 | 3.024 | 15.0 | 15.85 | 16.7 | 3.551 |
| 110.0 | 110.35 | 110.7 | 15.1 | 15.95 | 16.8 | 4.532 | 18.3 | 19.30 | 20.3 | 5.289 |
| 125.0 | 125.40 | 125.8 | 17.1 | 18.05 | 19.0 | 5.832 | 20.8 | 21.90 | 23.0 | 6.822 |
| 140.0 | 140.45 | 140.9 | 19.2 | 20.25 | 21.3 | 7.326 | 23.3 | 24.55 | 25.8 | 8.563 |
| 160.0 | 160.50 | 161.0 | 21.9 | 23.05 | 24.2 | 9.535 | 26.6 | 28.00 | 29.4 | 11.166 |
| 180.0 | 180.55 | 181.1 | 24.6 | 25.90 | 27.2 | 12.055 | 29.9 | 31.45 | 33.0 | 14.113 |
| 200.0 | 200.60 | 201.2 | 27.4 | 28.85 | 30.3 | 14.913 | 33.2 | 34.95 | 36.7 | 17.424 |
| 225.0 | 225.70 | 226.4 | 30.8 | 32.40 | 34.0 | 18.849 | 37.4 | 39.35 | 41.3 | 22.069 |
| 250.0 | 250.75 | 251.5 | 34.2 | 36.00 | 37.8 | 23.268 | 41.5 | 43.65 | 45.8 | 27.207 |
| 280.0 | 280.85 | 281.7 | 38.3 | 40.30 | 42.3 | 29.176 | 46.5 | 48.90 | 51.3 | 34.136 |
| 315.0 | 315.95 | 316.9 | 43.1 | 45.35 | 47.6 | 36.933 | 52.3 | 55.00 | 57.7 | 43.195 |
| 355.0 | 356.10 | 357.2 | 48.5 | 51.00 | 53.5 | 46.830 | 59.0 | 62.00 | 65.0 | 54.878 |
| 400.0 | 401.20 | 402.4 | 54.7 | 57.50 | 60.3 | 59.479 | | | | |
| 450.0 | 451.35 | 452.7 | 61.5 | 64.65 | 67.8 | 75.242 | | | | |
| 500.0 | 501.50 | 503.0 | | | | | | | | |
| 560.0 | 561.70 | 563.4 | | | | | | | | |
| 630.0 | 631.90 | 633.8 | | | | | | | | |
| 710.0 | 713.20 | 716.4 | | | | | | | | |
| 800.0 | 803.60 | 807.2 | | | | | | | | |
| 900.0 | 904.05 | 908.1 | | | | | | | | |
| 1000.0 | 1004.50 | 1009.0 | | | | | | | | |

FITTINGS

Flo-Tek stocks a wide range of butt-weld, compression, electro-fusion and socket-weld fittings. All fittings are made from PE100 and sizes range from 16mm to 1000mm (Depends fitting). All moulded fittings conform to various international quality standards and certification.

JOINTING METHODS

One of the greatest features of HDPE pipe is that a wide range of jointing systems are available to suite any application. The jointing systems can be divided into two main categories with further sub-divisions in each category.

Permanent Jointing



Buttwelding



Electrofusion



Non-Permanent (detachable) Jointing



Tak / Vitaulic System



Compression Fittings



Flanging



Stubs

Moulded Fittings Range

1. Compression Fittings

- Coupling
- 90 Degree Elbow
- 90 Degree Elbow (Male / Female)
- Tees (Reducing / Female / Male)
- Endplugs
- Flanged Adaptor
- Reducing Coupling
- Male / Female Adaptor

2. PE100 Electrofusion Fittings

- Couplers

3. Clamp Saddles

- Reinforced Saddle
- Unreinforced Saddle
- *All Other Saddles Available On Request

4. Electrofusion Reducers

5. PP Flanges

6. Transition Fittings

7. Electrofusion Tees

8. Electrofusion Elbows

9. Electrofusion Branch Saddles

10. Electrofusion Tapping Saddles



Fabricated Fittings

Flo-Tek fabricates all types of fittings out of our PE100 piping. Laterals, Tees, Seamless bends, segmented bends and stubs. We can fabricate per drawing and as per requirements.

Product Range

1. PE100 Moulded Butt weld Fittings

- 90 Degree Elbow Long Spigot
- Tee Long Spigot
- End Cap Long Spigot
- Reducing Tee Long Spigot
- Reducer Long Spigot
- Stub Long Spigot Cross Long Spigot
- Reducing Cross Long Spigot

2. PE100 Fabricated Butt weld Fittings

- PE100 Fabricated Stubs
- Segmented Bends
- Seamless Bend
- Fabricated Tees
- Fabricated Lateral



Flanges

We have our own range of flanges, from 20mm upto 2000mm. The flanges are mildsteel, hot-dipped galvanised and conforms to SANS 1123. All other flanges are available on request.

Product Range

- 1000/3
- Table D
- 1600/3
- ASA150



Valves

We have a wide range of valves available in Steel and Thermo-Plastics.



Product Range

- Flanged Resilient Seated Gate Valve – SABS 664
- Socketed Resilient Seated Gate Valve – SABS 664
- Plain End Resilient Seated Gate Valve
- Manufactured Flanged Resilient Seated Gate Valve – PN16
- Flanged Wedge Gate Valve – PN16 – SABS 664
- Resilient Seated Gate Valve – Rising Spindle – SABS 665
- Wedge Gate Valve Industrial Pattern -Non Rising Spindle – PN 10
- Wedge Gate Valve Industrial Pattern – Rising Spindle – PN 10
- Shouldered Butterfly Valve – Rubber Lined Disc
- Shouldered Non Return Valve
- Shoulder Coupling
- Diaphragm Valve
- Butterfly Valve Wafer Nickel Plated Disc -PN16 Pinned
- Butterfly Valves Wafer Type 316SS Disc-PN16 Pinned
- Gearbox for Butterfly Valve Wafer type
- Butterfly Valve Wafer Type, 304 Stainless Steel Disc Pinned
- Butterfly Valve Wafer Type, 316SS disc, Pinless – PN25
- EPNS Butterfly Valves Wafer 316 Stainless Steel Body & Disc [Spline Shaft] PTFE Liner-PN16
- Double Eccentric Flanged Butterfly Valves
- Slurry Wafer Butterfly Valves

FIRE HYDRANTS



WELDING MACHINES

We manufacture different types of welding machines and Band Saws for all types of thermos-plastics. These include Butt-Weld, Electro-fusion and Fabrication Machines.

Band Saw
Band Saw



Product Range

- Band Saw
- FHD450 with Crane
- FHD800-1000-1200
- FHG315 & FHG630
- FHS110-75 Socket Fusion Machine
- Flotek Electrofusion Machine

FHD450 With Crane



FHD800-1000-1200



FHS110-75 Socket Fusion Machine



Flotek Electrofusion Welding machine



STORAGE & TRANSPORTATION

Storage

Pipes should be stored on level, flat ground and free of stones. They may be stored on timber supports of at least 75mm in width, placed 1.5 metres apart with side supports. The height of pipe stacks should not exceed 1.5 metres.

It is recommended that coils be stored 'on edge', i.e. so that the coil presents a circle in elevation, for ease of handling. However, care must be taken during handling as to not subject the coil to impact load when placing it. This is to prevent buckling of the inside wall of the pipe in the coil.

All pipe stacks and stored fittings should be covered to avoid prolonged exposure to direct sunlight.



Transportation

A flat-bodied vehicle is ideal for transporting straight lengths of pipe.

When a mixed load of pipes [i.e. varying diameters] is to be transported the larger pipes should be placed at the bottom.

Pipes should not overhang the vehicle by more than 1m. When transporting coils, they should be 'flat', i.e. so that the coil presents a circle in plan, this is to prevent buckling of the inner wall of the pipe when it is subjected to the impact loads during transportation - this is particularly important with thin walled pipes of lower classes.





OUR NETWORK

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SABS
ISO 9001

SAPPMA
southern african plastic pipe manufacturers association