



T-flex for Industries

T-flex pipe system has been delivering significant value to industrial end users for many decades worldwide. T-flex pipe systems offered by Dadex are manufactured from polyethylene (PE) compound. That is why T-flex pipe systems are ideal for transportation of aggressive fluids and chemicals as well as potable water from one point to another without the need of regular maintenance or replacement.

T-flex pipes meet demands of today's aggressive industry requirements. T-flex pipe system is the perfect solution for industrial applications that feature high flow rates and extremely harsh conditions. Its light weight, flexibility and durability is specifically designed for processes where corrosion resistance, abrasion resistance and operating pressures are major factors.

Being an ISO 9001 certified company, the quality system at Dadex ensures that products manufactured conform to international standards. Dadex aims to deliver superior quality pipe systems by understanding and meeting customer requirements.

DADEX

WHY T-FLEX PIPE SYSTEM?

T-flex pipe systems are widely used for industrial applications because they help to:

- Solve corrosion problems
- Increase useful life
- Reduce maintenance
- Lower system life cycle expenditures
- Operate plants more safely

- **Corrosion & Chemical Resistance**

T-flex pipes will not rust, rot, pit or corrode due to chemical, electrolytic or galvanic action (for a quick reference see table 2).

- **Resistance To Biological Attack**

T-flex pipes have a high degree of resistance to attack by fungi and bacteria. This feature makes T-flex pipes ideal for sensitive applications such as food processing plants where avoiding contact with bacteria and fungi is a prerequisite.

- **Ease Of Installation**

T-flex pipes are flexible, light weight and easy to handle, especially in industrial plants, where often various pipe streams are laid below and above ground. Easy installation of new pipelines and safe plant operations are ensured by using T-flex pipes.

PRODUCT RANGE

T-flex Pipe Dimensions:

T-flex pipes are manufactured in nominal outside diameter of size 20, 25, 32, 40, 50, 63, 75, 90, 110, 125, 160, 180, 200 and 250mm.

Standard Lengths:

Coils up to 50m and 100m lengths are available for sizes up to 90mm. Pipes are available in straight lengths of 6m and 12m for sizes up to 250mm.

TECHNICAL SPECIFICATIONS

Pressure Rating Of T-flex Pipes:

Operating pressure of T-flex pipes range between 6, 8, 10, 12.5 and 16 bar. The nominal pressure (PN) corresponds to the maximum allowable working pressure in bar for pipe at 20°C.

Operating Pressure Of T-flex Fittings:

10 bar (Compression Type)

16 bar (Compression Type) are also available against commercially feasible quantities.

8 – 16 bars (Butt Fusion Type)

Cold Bending Radii (CBR):

CBR in metres at 20°C = 22 x Outside Diameter of pipe.

Standards:

T-flex systems are manufactured as per latest International Standards.

TABLE 1: TYPICAL PHYSICAL PROPERTIES OF POLYETHYLENE (BLACK)

Properties		Typical Value*	Unit	Test Method
Density	(Compound)	950-959	Kg/m ³	ISO 1183
Melt Flow Rate	(190°C/5.0 kg)	0.3	g/10 min	ISO 1133
Tensile Stress at Yield	50 mm/min	19-21	MPa	ISO 1133
Elongation at Yield		9	%	ISO 527-2
Elongation at Break		>350	%	ISO 527-2
Charpy Impact Strength, notched	0°C	14	kJ/m ²	ISO 179/1eA
Carbon Black Content		≥2	%	ASTM D 1603
Brittleness Temperature		<-70	°C	ASTM D 746
ESCR	10% Igepal, F ₆₀	>10000	h	ASTM D 1693-A
Thermal Stability	210°C	>15	Min	EN 728

* The above given data is valid for PE 80. Pipes and fittings of PE 100 can also be supplied against specific requirements.

FIELDS OF APPLICATION

T-flex pipes can be used across industries as a reliable system. A few industrial applications include:

- Systems for food processing and surface treatment
- Slurry lines in beverage industries
- Industrial water
- Sewage pipelines for industrial wastages
- Cooling air and ventilation system
- Acid / caustic lines
- Chilled water piping system
- Industrial effluents
- Hazardous waste
- Process piping
- Sewage treatment
- Storage tank piping
- Utility piping
- Fly ash disposal
- Fire main piping
- Temporary pipelines
- Paper and pulp manufacturing
- Power plants
- Organic chemicals and inorganic chemicals
- Hazardous waste
- Cement plants
- Floor drains

INDUSTRIES SERVED

- Agriculture
- Breweries
- Chemicals
- Fertilizer
- Food process
- Irrigation
- Marine (Dredging, etc.)
- Mineral Processing
- Mining
- Oil and Gas
- Paper and Board
- Power Generation
- Refineries
- Sugar
- Tanneries
- Textiles
- Telecommunications and many more.

TABLE 2: CHEMICAL RESISTANCE CHART*

Common chemicals resisted by polyethylene pipes are listed below where

A = Very Good B = Good C = Moderate D = Not recommended

S.No.	Chemicals	PE
1.	Acetaldehyde	C
2.	Acetamide	A
3.	Acetic Acid 80%	D
4.	Acetone	B
5.	Acetylene	A
6.	Alcohols: Amyl	B
7.	Benzyl	D
8.	Butyl	A
9.	Ethyl	B
10.	Isopropyl	A
11.	Methyl	A
12.	Aluminum Sulphate	A
13.	Ammonia	C
14	Aniline	B

S.No.	Chemicals	PE
15.	Aromatic Hydrocarbons	C
16.	Arsenic Acid	B
17.	Barium Carbonate	B
18.	Barium Sulphate	B
19.	Benzaldehyde	A
20.	Benzene	C
21.	Benzonic Acid	B
22.	Benzol	C
23.	Borax	A
24.	Boric Acid	A
25.	Butadiene	D
26.	Butane	C
27.	Butylene	B
28.	Calcium Sulphate	B

S.No.	Chemicals	PE
29.	Butylene	B
30.	Carbon Dioxide	C
31.	Carbon Disulfide	C
32.	Carbonic Acid	B
33.	Chlorine, anhydrous	B
34.	Chloroform	C
35.	Chromic Acid 50%	A
36.	Citric Acid	A
37.	Copper Sulphate	B
38.	Diesel Fuel	C
39.	Ethylene Glycol	B
40.	Fatty Acids	A
41.	Ferric Chloride	A
42.	Ferric Sulphate	A
43.	Flourine	C
44.	Formaldehyde 100%	B
45.	Formic Acid	B
46.	Gasoline	C
47.	Heptane	B

S.No.	Chemicals	PE
48.	Hydrochloric Acid 20%	A
49.	Hydrogen Peroxide 100%	C
50.	Iodine	A
51.	Magnesium Hydroxide	A
52.	Mercury	A
53.	Oleum 100%	D
54.	Petrolatum	B
55.	Phenol	B
56.	Phosphoric Acid	B
57.	Potassium Carbonate	A
58.	Silver Nitrate	B
59.	Sodium Bicarbonate	A
60.	Stearic Acid	B
61.	Sulphuric Acid	B
62.	Tannic Acid	B
63.	Toluene	C
64.	Zinc Sulphate	A

TABLE 3: INDUSTRY SPECIFIC CHEMICAL RESISTANCE CHART*

Common chemicals resisted by polyethylene pipes are listed below where

A = Very Good

B = Good

C = Moderate

D = Not recommended

Chemicals Used in Tanneries	PE
Sodium Sulphate	B
Sodium Sulphide	B
Chromium Sulphate	B
Ammonium Sulphate	B
Ammonium Chloride	B
Tannic Acid	B
Tanneries Effluent	
Sulphuric Acid	B
Phosphoric Acid	B
Formaldehyde	B
Glycolic Acid	B
Ethylene Glycol	B

Chemicals Used in Textiles	PE
Alum	B
Copper Sulphate	B
Iron (ferrous sulphate)	B
Tannic Acid	B
Oxalic Acid	B
Sodium Sulphate	B
Sulphuric Acid	B
Hydrogen Peroxide	B
Textile Wastewater	
Caustic Soda	B
Urea	B
Ammonia (aqueous)	B

*Data should not be used for specification work. Dadex Technical section should be consulted for specific operational conditions with respect to pressure, temperature and fluid concentration prior to specifying the product.

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Note: All information contained in this literature is given in good faith. The user should, however, check that the product is suitable in the application for which it shall be used. Please ensure compliance with all health and safety requirements. Whilst continuing its programme of continuous development, Dadex reserves the right to modify or extend any published information without any prior notification. No responsibility can be accepted for any error, omissions or incorrect assumptions.

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