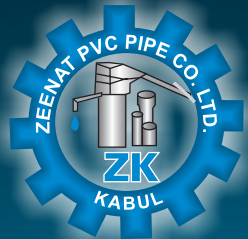


ZEENAT
PVC PIPE



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PVC PRESSURE PIPES
PVC SEWERAGE PIPES
PVC CONDUIT PIPES

An Innovative Piping System
For Water, Natural Gas & Cable Duets



a sign of quality

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INTRODUCTION

Zeenaat PVC Co. Ltd. Is a partnership firm. It is a registered company with Afghanistan investment agency (AISA) since 2004. We want to set standards in every field we work. Customer focus, quality and innovation are reflected in every aspect of our business. Our strength lies in pre-empting customer expectations and product demands.

Zeenaat PVC Co. Ltd. Has originated in the year 2004 as an importer and exporter of PVC Pipes, PVC Fittings, HDPE Pipes and water hand pumps from Pakistan country. We were a whole sale dealer of Royal Pipe in Jalal Abad city and Alpha Pipe in Kabul city for many years. We worked and used our materials in various projects with good results. **Zeenaat PVC Co. Ltd.** Started its regular production of un plastic polyvinyl chloride (uPVC) pressure and Non – pressure Pipe system for cold and potable water and other industrial uses from March, 2015 in Afghanistan industrial area of Pulicharkhiin a rental place. It is one of the best manufacturing unit for uPVC Pipes in our home land. **Zeenaat PVC** Pipes are manufactured in base of American standards (ASTM) British Standards (BS) and German Standards (DIN) the Pipes quality depends on degree of technical skills, experience, production technology and well management. There for, why **Zeenaat PVC Co. Ltd.** Employees are highly skilled and experienced labor, **Zeenaat utilizes** latest technology on its production line and retains the modern management system. This integrated structure makes all **Zeenaat products** to be compatible with any other products produced in the world today. The finest quality **Zeenaat PVC** Pipes inherit the all required properties that are, precision manufacturing, excellent flow characteristics, chemical stability, lightness, flexibility and higher impact strength.

We have achieved a long term relation with our clients with the continuous efforts of our team. We have in diligent workforce, which is professional in their work. Their valuable work experience and complete knowledge on the involved production processes assist us in meeting the standard and customized product need of our clients.

Physical Properties of PVC Materials

PHYSICAL PROPERTIES OF PVC MATERIALS	UNITS	ASTM NO.	PVC	ASTM NO.
Specific Gravity	g/cc	D 792	1.40	D 792
Tensile Strength (73oF) Minimum	Psi	D 638	7,000	D 638
Modulus of Elasticity in Tension (73oF) Minimum	Psi	D 638	400,000	D 638
Flexural Strength (73oF)	Psi	D 790	14,000	D 790
Izod Impact (notched at 73oF) Minimum	ft lb/ in. of notch	D 256	0.65	D 256
Hardness (Durometer D)		D 2240	80 ± 3	D 2240
Hardness (Rockwell R)		D 785	110 -120	D 785
Compressive Strength (73oF)	Psi	D 695	9,600	D 695
Hydrostatic Design Stress	Psi		2,000	D 1598
Coefficient of Linear Expansion	in./ in./ °F	D 696	3.0x10 ⁻⁵	D 696
Heat Distortion Temperature at 264 psi Minimum	degrees F	D 648	160	D 648
Coefficient of Thermal Conductivity	BTU/ hr/sq ft/ °F/ in.	C 177	1.2	C 177
Specific Heat	BTU/ °F/lb	D 2766	0.25	D 2766
Water Absorption (24 Hrs at 73oF)	% weight gain	D 570	.05	D 570
Cell Classification Pipe		D 3965	12454	D 1784
Cell Classification Fittings		D 3965	12454	D 1784
Burning Rate			Self-Ext.	D 635
Burning Class			V-0	UL 94**

Above data is based upon information provided by the raw material manufactures. It should be used only as a recommendation and not as a guarantee of performance. Underwriters Laboratories standard.

Physical & Mechanical Properties Of Pvc Pipes

PROPERTY	VALUE	UNIT
Specific Gravity	1.42 - 1.46	
Shore Hardness	70 - 90	----
Rockwell	110 - 120	Degree
Weather resistance	Colour fading but no decrease in strength.	
MECHANICAL	VALUE	UNIT
Tensile Strength AT 230°C	450 - 600	Kgf/cm ²
Modulus of Elasticity at 200°C	30,000	kgf/cm ²
Elongation at Break	>80%	
Impact strength at 0°C	0.5 - 1	ft lb/in of Notch
Impact strength at 20°C	1 - 2	ft lb/in of Notch
Compressive Strength	600 - 700	kgf/cm ²
Bending Strength	1000	kgf/cm ²

THERMAL & ELECTRICAL PROPERTIES OF PVC PIPES

THERMAL

Specific Heat at 20°C	0.24	Cal/gm/C
Vicat Softening Point	85	oC
Heat Distortion Temperature at 18.5 kgf / Cm ²	75	oC
Thermal Conductivity	0.12 - 0.14	cal m/mhc
Coefficient of Linear Expansion	7 - 8x10	m/m/C

ELECTRICAL

Dielectric Constant (800 Cycle)	3.0	
Dielectric Strength	425	Volts/mil
Inflammability	will not support combustion	
Water Absorption (24 Hours at Ambient Temperature)	0.07	%



Range & Standard of ZEENAT PVC Pipes

Zeena PVC pipes are manufactured in the following standard and range.

PRESSURE PIPES:

ASTM D 1785, Sch - 40 & ASTM D2665 Dual Rated
ASTM D1785, Sch - 80
BS - 3505 & PSI 3051
DIN 8061 & DIN 8062



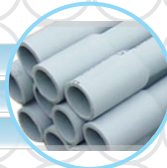
SEWERAGE, DRAIN & VENTILIZATION

ASTM D2665 DWV
ASTM D2241 SDR Series
PVC SDR 35 Sewer Pipe
PVC ASTM D2729 Sewer & Drain Pipe
BS - 5255 Thermoplastic Waste Pipe
BS - 4515 Soil & Ventilation
BS - 4660 & Underground Sewerage



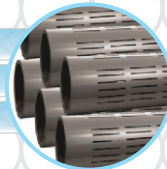
PVC ELECTRICAL CONDUIT PIPES:

NEMA TC-2 Sch-40 & Sch-80
NEMA TC-6, TC-8 & ASTM F512
BS - 6099



PVC Well Casing and Screen Pipes

ASTM F480
ASTM D1785
BS 3505



CPVC HOT AND COLD WATER DISTRIBUTION

ASTM F441 CPVC Sch-40 and Sch-80



PVC Fittings

ASTM D 2466 Pressure Fittings
ASTM D 2665 DWV Fittings
ASTM F512 Fabricated Fittings and Long Elbows



Range:

Nominal Diameter: From 1/4" to 24"

Sustained Working Pressure Upto 15 bar
(150 meter head of water)

Zeena PVC Pressure, Sewerage, Drain, Ventilation & conduit pipes are available in any length provided that the order is not less than 200 meters. The pressure pipe is supplied in plain, Z-joint and socketed ends with or without provision of rubber rings.

Product Specifications

System: PVC Schedule 40 Pressure Pipe and Fittings System

Scope: This specification covers PVC Schedule 40 pipe and fittings for pressure applications. This system is intended for pressure applications where the operating temperature will not exceed 140° F.

Specification: Pipe and fittings shall be manufactured from virgin rigid PVC (polyvinyl chloride) Vinyl compounds with a Cell Class of 12454 as identified in ASTM D 1784.

PVC Schedule 40 pipe shall be iron Pipe Size (IPS) conforming to ASTM D 1785. PVC Schedule 40 fittings shall conform to ASTM D 2466. Pipe and fittings shall be manufactured as system.

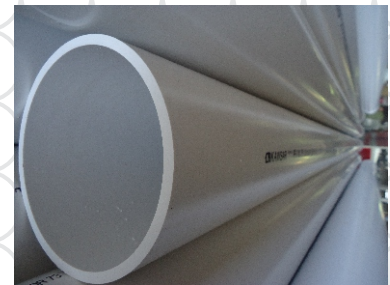
Installation shall comply with the last installation instructions published by **Zeenat Pipe** and Foundry and shall conform to all applicable plumbing, building, and fire code requirements. Buried pipe shall be installed in accordance with ASTM F 1668 and ASTM D 2774. Solvent cement joints shall be made in a two-step process with primer conforming to ASTM F 656 and solvent cement conforming to ASTM

D 2564. The system shall be protected from chemical agents, fire stopping materials, thread sealant, plasticized vinyl products, or other aggressive chemical agent not compatible with PVC compounds. Systems shall be hydrostatically tested after installation.

WARNING! Never test with or transport/store compressed air or gas in PVC pipe or fittings.

Reference Standards:

ASTM D 1784	Rigid Vinyl Compounds
ASTM D 1785	PVC Plastic Pipe, Schedule 40
ASTM D 2466	PVC Plastic Fittings, Schedule 40
ASTM D 2564	Solvent Cements for PVC Pipe and Fittings
ASTM D 2774	Underground Installation of Thermoplastic Pressure Piping
ASTM F 656	Primers for PVC Pipe and Fittings
ASTM F 1668	Procedures for Buried Plastic Pipe



Note: Latest revision of each standard applies.

Short Specification:

Pipe and fittings shall be manufactured from PVC compound with a cell class of 12454 per ASTM D 1784 and conform with International standards 14 and 61. Pipe shall be iron pipe size (IPS) conforming to ASTM D 1785. Fittings shall conform to ASTM D 2466.

All pipe and fittings shall be produced by a single manufacturer and shall be installed in accordance with manufacturer's recommendations and applicable code requirements. Buried pipe shall be installed in accordance with ASTM F 1668 and ASTM D 2774. Solvent cements shall conform to ASTM D 2564 primer conform, to ASTM 656. The system is to be manufactured by **Zeenat Pipe Company** and is intended for pressure applications where the temperature will not exceed 140°F.

Product Specifications

System: PVC Schedule 40 Solid Wall Pipe and PVC DWV Fitting System

This specification cover PVC Schedule 40 solid wall pipe and PVC DWV fitting used in sanitary drain, waste, and vent (DWV), sewer, and storm drainage applications. This system is intended for use in non-pressure application where the operating temperature will not exceed 140°F

Specification: Pipe and fitting shall be manufactured from virgin rigid PVC (polyvinyl Chloride) vinyl compounds with a Cell Class of 12454 as identified in ASTM D 1784.

PVC Schedule 40 pipe shall be Iron Pipe Size (IPS) conforming to ASTM D 1785 and ASTM D 2665. PVC DWV fittings shall conform to ASTM D 2665. All system shall utilize a separate waste and vent system.

Installation shall comply with the latest installation instructions published by and shall conform to all applicable plumbing, building, and fire code requirements. Buried pipe shall be installed in accordance with ASTM D 2321 and ASTM F 656 and solvent cement conforming to ASTM D 2564, the system shall be protected from chemical agents, fire stopping materials, thread sealant, plasticized vinyl products, or other aggressive chemical agent not compatible with PVC compounds. System shall be hydrostatically tested after installation.

WARNING! Never test with or transport/store compressed air or gas in PVC pipe or fittings.

Referenced Standards:

ASTM D 1784	Rigid Vinyl Compounds
ASTM D 1785	PVC Plastic Pipe, Schedule 40
ASTM D 2665	PVC Drain, Waste, and Vent Pipe & Fittings
ASTM D 2564	Solvent Cements for PVC pipe and Fittings
ASTM D 2321	Underground Installation of Thermoplastic Pipe (non- pressure application)
ASTM F 656	Primers for PVC Pipe and Fittings
ASTM F 1668	Procedures for Buried Plastic Pipe



Note: Latest revision of each standard applies.

Short Specification:

Pipe and Fittings shall be manufactured from PVC compound with a cell class of 12454 per ASTM D 1784 and conform to International standard 14. Pipe shall be iron pipe size (IPS) conforming to ASTM D 1785 and ASTM D 2665.

All pipe and fittings shall be produced by a single manufacturer and shall be installed in accordance with manufacturer's recommendations and applicable code requirements. Buried pipe shall be installed in accordance with ASTM D 2321 and ASTM F 1668. Solvent cements shall conform to ASTM D 2564; primer shall conform to ASTM F 656. The system is to be manufactured by **Zeenat Pipe Company** and is intended for non-pressure drainage applications where the temperature will not exceed 140°F.

PVC SCH-40 ASTM D 2665 & 1785

Outside Diameter, Wall Thickness & Tolerance for PVC Pipe Schedule 40

Product Code	Nominal Size	Outside Diameter (mm)		SCH-40 Dimensions			
				Min wall thickness		Max. W.P	Weight / mtr
		Inch	mm	Inch	mm	PSI	
D1/4WS4	1/4	0.540	13.716	0.088	2.235	780	0.128
D3/8WS4	3/8"	0.675	17.145	0.091	2.311	620	0.167
D 1/2WS4	1/2"	0.840	21.336	0.109	2.769	600	0.248
D3/4WS4	3/4"	1.050	26.670	0.113	2.870	480	0.329
D1WS4	1"	1.315	33.401	0.133	3.378	450	0.483
D11/4WS4	1-1/4"	1.660	42.164	0.14	3.556	370	0.653
D11/2WS4	1-1/2"	1.900	48.260	0.145	3.683	330	0.779
D2WS4	2"	2.375	60.325	0.154	3.912	280	1.045
D21/2WS4	2-1/2"	2.875	73.025	0.203	5.156	300	1.650
D3WS4	3"	3.500	88.900	0.216	5.486	260	2.160
D4WS4	4"	4.500	114.300	0.237	6.020	220	3.074
D5WS4	5"	5.563	141.300	0.258	6.553	190	4.169
D6WS4	6"	6.625	168.275	0.28	7.112	180	5.414
D8WS4	8"	8.625	219.075	0.322	8.179	160	8.154
D10WS4	10"	10.750	273.050	0.365	9.271	140	11.579
D12WS4	12"	12.750	323.850	0.406	10.312	130	15.280
D14WS4	14"	14.000	355.600	0.437	11.125	130	18.086
D16WS4	16"	16.000	406.400	0.5	12.700	130	23.627
D18WS4	18"	18.000	457.200	0.562	14.275	130	30.703
D20WS4	20"	20.000	508.000	0.593	15.062	120	36.066
D24GS4	24"	24.000	609.600	0.687	17.450	120	50.187

***Meets All Requirements of ASTM D 1784, ASTM D 1785,**

NOTE: A

Testing with or use of compressed air or gas in PVC pipe or fittings can result in explosive failures and cause severe injury or death. Never test with or transport / store compressed air or gas in PVC pipe or fittings with compressed air or gas, or air over water boosters.

Only use PVC pipe for water or approved chemicals.

Refer to warnings in PPFA User bulletin 4-80 and ASTM D 1785.

Product Specifications

System: PVC Schedule 80 Pressure Pipe and Fitting System

Scope: This specification cover PVC Schedule 80 pipe and fittings for pressure applications. This system is intended for pressure applications where the operating temperature will not exceed 140°F.

Specification: Pipe and fittings shall be manufactured from virgin rigid PVC (polyvinyl chloride) vinyl compounds with a Cell Class of 12454 as identified in ASTM D 1784.

PVC Schedule 80 pipe shall be iron Pipe Size (IPS) conforming to ASTM D 1785. PVC Schedule 80 fittings shall conform to ASTM D 2467. PVC Schedule 80 threaded fittings shall conform to ASTM D 2464. Pipe and fittings shall be manufactured as a system.

Installation shall comply with the latest installation instructions published by **Zeenaat Pipe** and shall conform to all applicable plumbing, building, and fire code requirements. Buried pipe shall be installed in accordance with ASTM F 1668 and ATM D 2774. Solvent cement joints shall be made in a two-step process using IPS P-70 or Oatey Industrial Grade premiers and solvent cement conforming to ASTM D 2564. The system shall be protected from chemical agents, fire stopping materials, thread sealant, plasticized vinyl products, or other aggressive chemical agents not compatible with PVC compounds. Systems shall be hydrostatically tested after installation. **WARNING!** Never test with or transport/store compressed air or gas in PVC pipe or fittings.

Referenced Standards:

ASTM D 1784	Rigid Vinyl Compounds
ASTM D 1785	PVC Plastic Pipe, Schedule 80
ASTM D 2464 or D 2467	PVC Threaded Fittings, Schedule 80
ASTM D 2467	PVC Socket Fittings, Schedule 80
ASTM D 2564	Solvent Cements for PVC Pipe and Fittings
ASTM D 2774	Underground Installation of Thermoplastic Pressure Piping
ASTM F 1668	Procedures for Buried Plastic Pipe



Note: Latest revision of each standard applies.

Short Specification:

Pipe and fittings shall be manufactured from PVC compound with a cell class of 12454 per ASTM D 1784 and conform with International standards 14 and 61. Pipe shall be iron pipe size (IPS) conforming to ASTM D 1785. Socket fittings shall conform to ASTM D 2467. Threaded fitting shall conform to ASTM D 2464 or D 2467. Flanges shall be 150# type per ANSI/ASME B 16.5.

All pipe and fittings shall be produced by a single manufacturer and shall be installed in accordance with manufacturers recommendations and applicable code requirements. Buried pipe shall be installed in accordance with ASTM F 1668 and ASTM D 2774. Solvent cements shall conform to ASTM D 2564, primer shall be IPS – P 70 or Oatey Industrial Grade. The system is to be manufactured by **Zeenaat Pipe** Company and is intended for pressure applications where the temperature will not exceed 140°F.