

# SLAC STRATEGIES

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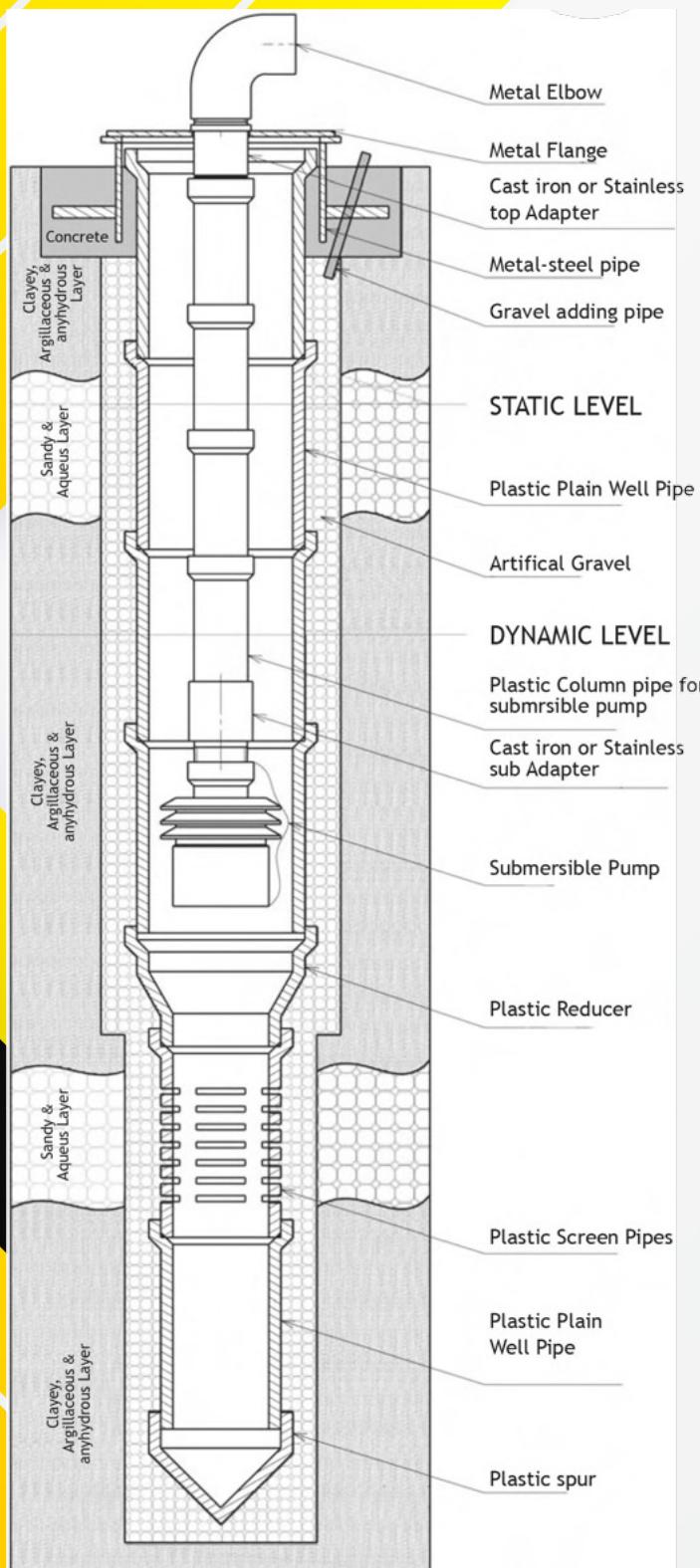
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# WE HAVE BEEN DIRECTING THE WATER **Since 1975**

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# INSTALLATION RULES FOR THE DEEP WELL PIPES AND COLUMN PIPES



- The ground survey must be done before the borehole (deep well) is opened.
- Well pipe and pump column pipe should be selected according to the pump to be used.
- The pipes must be carried carefully without dragging, colliding to each other and ground.
- Pipes must be carefully checked before use and installation. (cracks, fractures, damages and physical defects) Defective pipes should not be used.
- The thread protective covers of the pipes should not be removed until the time of installation.
- Mineral oil (grease) must not be applied to the threaded part of pipe. However, may use liquid soap.
- The plastic tightening wrench must be used during the installation. (Do not use chain or metal torque wrench that could be damage the pipe)
- If the pipes do not go down, they must not forced. The pipes must be removed from well and the installation must continue after the well has been cleaned.
- In order for the pipes to stand upright in the well, the pipes should be pulled 10 cm upwards after they touch the bottom and then should be suspended.
- The graveling should be slow and equal to the circumference of the pipe in order to avoid bridging.
- The submersible pump must be installed below of the dynamic level and the upper part of the screen (filtered) pipes. Otherwise, sand and silt pumped out by it and damages may occur to the pipes on the surface.
- The pump column pipe must be fixed to metal pipe that placed on the top of the well and must avoided fixing to the plastic pipe. Never, the well must not be cleaned by giving high air pressure with the compressor.

\* Critical Collapse Pressure values should be taken into account in pipe selection.

DEEP WELL PIPE TECHNICAL DETAILS			
Classification Pipe Size (Depth)	Critical Collopse Press (Bar)	SN	KN/m
21	100 m Series	7,7	27
17	300 m Series	14,8	55
13,5	500 m Series	32	112

Pipes producing 3m length.

\* 20°C water temperature is taken as reference.

PIPE SPECIFICATIONS													
TYPE	Ext. Diameter	Nominal Diameter		Pipe End Wall Thickness (mm)		Middle Of Pipe Wall Thickness (mm)		Pump Head (m)	Safe Hydrostatic Pressure*	Coupling Overlap Diameter	Safe Tensile Load	Breaking Load	Weight
		mm	inch	mm	min	max	min						
MEDIUM PLUS15BAR	42	1 1/4"	32	3,90	4,30	2,30	2,70	150	15	59,50	870	1450	1,560 1,985
	48	1 1/2"	40	4,20	4,60	2,60	3,00	150	15	64,50	1120	1860	3,035 4,370
	60	2"	50	4,90	5,30	3,00	3,40	150	15	83,50	1600	2675	5,800 9,600
	75	2 1/2"	65	5,60	6,00	3,70	4,10	150	15	96,111	2450	4080	15,170
	88	3"	80	6,10	6,50	4,20	4,60	150	15	142	3250	5410	21,380
	113	4"	100	7,90	8,30	5,40	5,80	150	15	170,00	5310	8850	
	140	5"	125	9,70	10,10	7,20	7,60	150	15	204,00	8660	14440	
STANDARD PLUS21BAR	165	6"	150	11,00	11,40	8,50	8,90	150	15		12000	20000	
	42	1 1/4"	32	4,80	5,20	3,20	3,60	210	21	59,50	1160	1930	2,010 2,585
	48	1 1/2"	40	5,30	5,70	3,70	4,10	210	21	64,50	1520	2530	3,835 5,570
	60	2"	50	6,00	6,40	4,10	4,50	210	21	83,50	2115	3525	7,500 12,400
	75	2 1/2"	65	6,90	7,30	5,00	5,40	210	21	96,111	3200	5340	19,670 27,680
	88	3"	80	7,80	8,20	5,90	6,30	210	21	142	4410	7350	
	113	4"	100	10,10	10,50	7,60	8,00	210	21	170,00	7245	12080	
HEAVY26 BAR	140	5"	125	12,50	12,90	10,00	10,40	210	21	204,00	11690	19485	
	165	6"	150	14,30	14,70	11,80	12,20	210	21		16210	27020	
	42	1 1/4"	32	5,90	6,30	4,00	4,40	260	26	65,50 71,50	1400	2335	2,590
	48	1 1/2"	40	6,50	6,90	4,60	5,00	260	26	87,104 121	1830	3050	3,355
	60	2"	50	7,70	8,10	5,20	5,60	260	26	146,185 217	2600	4340	5,000
	75	2 1/2"	65	9,00	9,40	6,50	6,90	260	26		4040	6735	7,400
	88	3"	80	10,10	10,50	7,60	8,00	260	26		5520	9200	10,020
SUPER HEAVY35 BAR	113	4"	100	12,30	12,70	9,80	10,20	260	26		9090	15160	16,470
	140	5"	125	15,30	15,70	12,30	12,70	260	26		14075	23455	-
	165	6"	150	17,00	17,40	14,50	14,90	260	26		19510	32520	-
	42	1 1/4"	32	7,00	7,40	5,10	5,50	350	35	65,50	1720	2860	3,090
	48	1 1/2"	40	7,70	8,10	5,80	6,20	350	35	71,50	2225	3700	3,955
	60	2"	50	9,40	9,80	6,90	7,30	350	35	87	3315	5525	6,050 9,100
	75	2 1/2"	65	11,20	11,60	8,70	9,10	350	35	104	5195	8660	12,420
STAINLESS STEEL ADAPTERS	88	3"	80	12,70	13,10	10,20	10,60	350	35	121	7125	11875	20,370
	113	4"	100	15,60	16,00	13,10	13,50	350	35	146	11710	19515	
	140	5"	125	18,80	19,20	16,30	16,70	350	35	185	17995	29990	-
	165	6"	150	21,80	22,20	19,30	19,70	350	35	217	25055	41760	-



STAINLESS STEEL SUB ADAPTER



STAINLESS STEEL UPPER ADAPTER



GALVANIZED STEEL SUB ADAPTER



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STAINLESS STEEL UPPER ADAPTER



GALVANIZED STEEL SUB ADAPTER

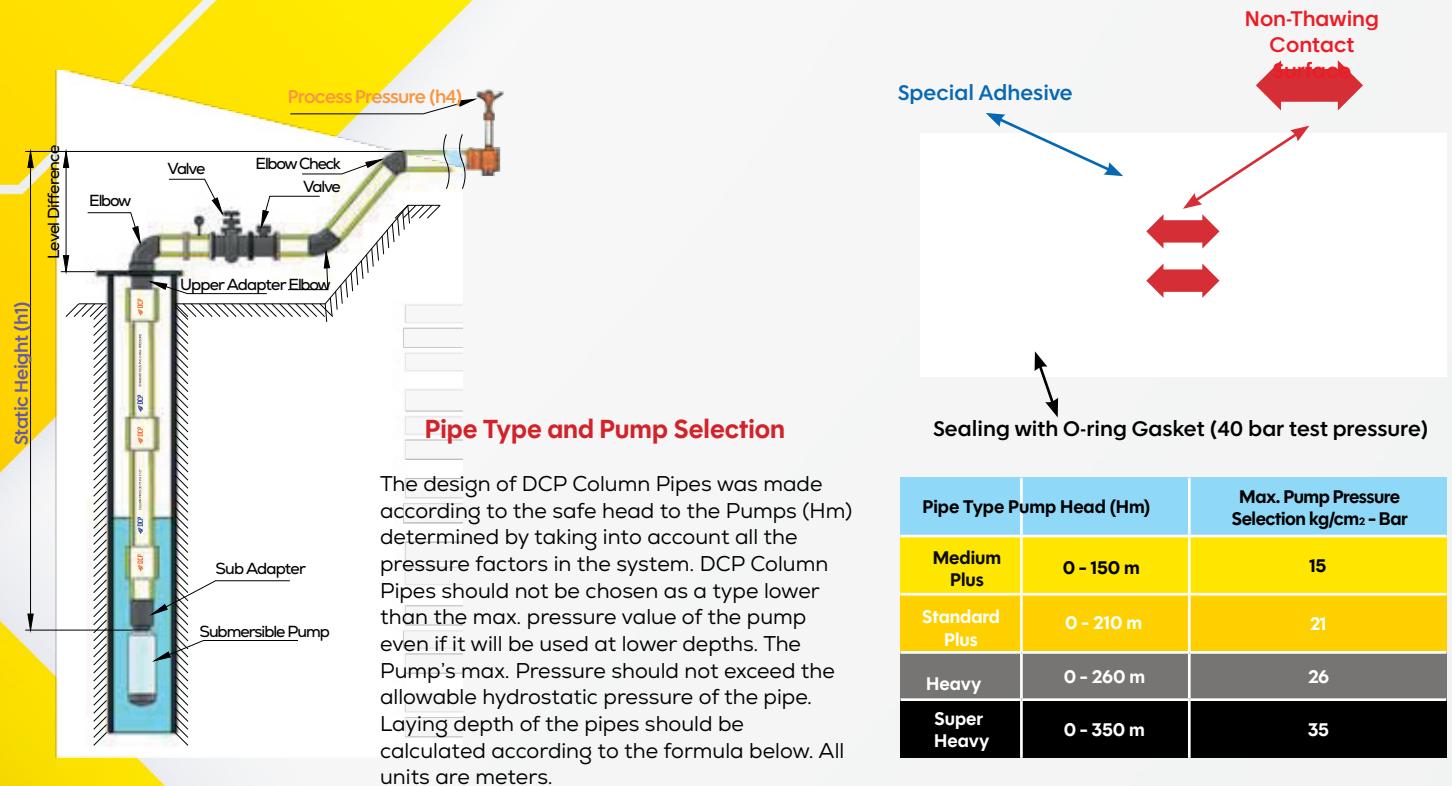


GALVANIZED STEEL UPPER ADAPTER

EXTERNAL DIAMETER

mm	42	48	60	75	88	113	140	165
inch	1	1 1/4	1 1/2	2	2 1/2	3	4	6

The square threads of coupler and pipes designed for DCP Column Pipes are made in the last generation threading machines. By thickening the pipe ends with special production methods, the safe wall thickness value of the pipe is maintained after threading. Special adhesive is used to fix the coupler to the pipe. Sealing is provided with o-ring seal used between pipe and coupler. With the tightening torque applied during the well assembly, the pipe head parts contact each other, creating pretension in the square threads. This Pre-tension prevents self-thawing of the teeth.



$$\begin{array}{rcl}
 \text{Pump Head} & = & \text{Static Height} + \text{Pipe Friction Loss} + \text{Spare + Parts \& Valve Friction Loss} + \text{Process Pressure} \\
 (Hm) & & (h1) \quad (h2) \quad (h3) \quad (h4)
 \end{array}$$

<b>Hm</b>	<b>Pump Head</b>	Static height in the pipeline is the total pressure affecting the pipe as a result of friction losses and process pressure. The general principle in altitude-pressure conversion is $10 \text{ mSS} = 1 \text{ kg/cm}^2 \text{ dir}$ .
<b>h1</b>	<b>Static Height</b>	It is the height difference between the lowest and highest level of pipeline.
<b>h2</b>	<b>Pipe Friction Loss</b>	It is the friction loss occurs along the pipeline. The appropriate pipe diameter must be selected to minimize loss. Friction losses in the pipe can also be calculated with the Hazen-Williams formula. $Pm = 6.05x \left[ \frac{Qm}{C_{1.85} \cdot d^{4.87}} \right] \cdot 105$ $Qm = \text{Flow (lt/min)}$ $C = \text{Friction Loss Coefficient (PVC = 150)}$ $Pm = \text{Unit length friction resistance in the pipe (bar/m)}$ $dm = \text{Pipe inside diameter (mm)}$
<b>Spare Parts &amp; h3 Valve Friction Loss</b>		It is the pressure loss caused by elements such as fittings and valves in the system. In practice, $\%10(h1+h2)$ is taken. For more accurate calculations, equivalent straight pipe lengths of valves and fittings corresponding to the same resistance loss should be used. Catalogs of manufacturers can be used.
<b>h4</b>	<b>Process Pressure</b>	It is the operating pressure required at the end of the pipeline. (In irrigation systems 30 m (3 bar), in housing 10 m (1 bar), in free flow to pools 0 m (0 bar) etc.)

**Not:** Normal usage temperature is 25°C. For every 5°C of increase in temperature, there will be 10% performance loss. Maximum usage temperature is 50°C. There will be 50% performance at 50°C.

# U-PVC Deep Well Pipes (TS 11794) (Casing & Screen)

U-PVC Casing(plain) an screen(slotted) pipes have been specially designed and manufactured using high quality raw materials and additives that accordance quality standards TS 11794 as one end of pipes is male trapezoid type threaded and other socket end is a female trapezoid type threaded. Casing pipes are available in various length for depth up to 500 meters. Screen pipes are slotted along its circumference with different slot dimensions. The slots are cut by circular saws and arranged perpendicular to the axis of the pipe. The perpendicular disposition of the slots provides higher resistance to collapsing pressure and excellent hydraulic properties. Slot sizes permeability adapted to the requested flow rate. Pipe Lengths and slot sizes of casing and screen pipes can produced according to customer's request .

pipes are marked to ensure full traceability of our products. In addition to the date and production time, we can go back to the raw material which was used to produce the pipe.



Raw Materials	PVC - U
Length	2 – 3 and 4 meter
Slot size	2 mm – 1 mm – 0,75 mm – 0,50 mm width (perpendicular to the axis of the pipe)
Threads type	Trapezoidal
Connection	Male and Female Snap-Fit Connection
Marking	Standard marking

SDR	Classification Pipe Size (Depth)	Critical Collapse Pressure (Bar)	SN kN/m <sup>2</sup>
21	100 m Series	7,7	27
17	300 m Series	14,8	55
13,5	500 m Series	32	112

\* Critical Collapse Pressure values should be taken into account in pipe selection.

# U-PVC Deep Well Pipes (TS 11794) (Casing & Screen)

## Dimensions of well casing and screens

Up to 100 meters depth (the pipe has a BLUE cap)

100 m Depth	Ext. Dia.		Wall Thickness (+,-)		Int. Dia. mm	Screw Size	Weight (kg / length)				
	Pipe		mm	Tolerance mm			2mt	3mt	4mt		
	mm	inch									
88	3"		4.0	±0.00	80.0	TR 88x6	3.260	4.850	6.440		
113	4"		5.0	±0.70	103.0	TR 113x6	5.250	7.750	10.250		
125	4 1/2"		5.5	±0.80	114.0	TR 125x6	6.550	9.600	12.650		
140	5"		6.5	±0.90	127.0	TR 140x6	8.400	12.450	16.500		
160	5 1/2"		7.7	±0.90	144.6	TR 160x6	11.670	17.240	22.800		
175	6"		8.0	±1.00	159.0	TR 175x6	12.850	19.050	25.250		
185	7"		8.3	±1.00	168.4	TR 185x6	14.550	21.500	28.400		
200	7 1/2"		9.0	±1.20	182.0	TR 200x6	16.500	24.500	32.500		
225	8"		10.0	±1.20	205.0	TR 225x6	20.700	30.700	40.700		
250	9"		11.0	±1.30	228.0	TR 250x12	24.500	36.430	48.300		
280	10"		12.5	±1.40	255.0	TR 280x12	32.370	47.900	63.430		
330	12"		14.5	±1.70	301.0	TR 330x12	44.300	65.550	86.800		
355	14"		16.0	±1.70	323.0	TR 355x12	55.400	83.200	110.000		
400	16"		18.0	±2.00	364.0	TR 400x12	64.740	95.790	126.830		



Up to 300 meters depth (the pipe has a RED cap)

300 m Depth	Ext. Dia.		Wall Thickness (+,-)		Int. Dia. mm	Screw Size	Weight (kg / length)				
	Pipe		mm	Tolerance mm			2mt	3mt	4mt		
	mm	inch									
88	3"		5.0	±0.70	78.0	TR 88x6 TR	4.000	5.950	7.900		
113	4"		6.5	±0.85	100.0	113x6 TR	6.300	9.350	12.400		
125	4 1/2"		7.1±0.95		110.8	125x6 TR	7.750	11.400	15.050		
140	5",		8.0	±1.00	124.0	140x6 TR	10.150	15.050	19.950		
160	5 1/2"		9.2	±1.00	141.6	160x6 TR	15.000	22.150	29.300		
175	6"		10.0	±1.20	155.0	175x6 TR	15.800	23.500	31.200		
185	7"		10.8	±1.20	163.4	185x6 TR	19.560	28.880	38.200		
200	7 1/2"		11.5	±1.40	177.0	200x12	20.880	31.480	41.080		
225	8"		13.0	±1.50	225x12	250x122x2.0	26.360	39.100	51.840		
250	9"		14.0	±1.65			32.250	47.820	63.400		
280	10"		16.0	±1.80	238.0	TR 280x12	40.800	60.350	79.900		
330	12"		19.0	±2.20	292.0	TR 330x12	56.850	84.150	111.450		
355	14"		20.0	±2.20	315.0	TR 355x12	69.200	102.000	135.000		
400	16"		22.7	±2.20	354.6	TR 400x12	82.800	122.080	161.660		



Up to 500 meters depth (the pipe has a GREEN cap)

500 m Depth	Ext. Dia.		Wall Thickness (+,-)		Int. Dia. mm	Screw Size	Weight (kg / length)		
	Pipe mm inch		mm	Tolerance mm			2mt	3mt	4mt
	mm	inch							
Pipe mm inch 140	140		10.4	±1.25	11.9	TR 140x6	12.90	19.15	
5", 160 5 1/2" 175			±1.30	13.0	±1.40	TR 160x6	25.40	18.37	27.56
6" 200 7 1/2"			14.0	±1.60	15.8	TR 175x6	20.02	29.73	39.44
225 8"			±1.70		17.20	TR 200x2	36.30	54.0	37.70
					19.0	TR 225x12	71.0		



# U-PVC Deep Well Pipes (TS 11794) (Casing & Screen)

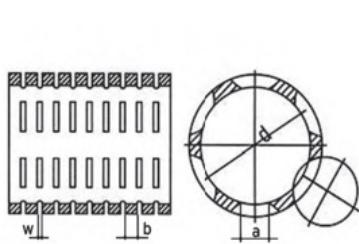
## Fittings



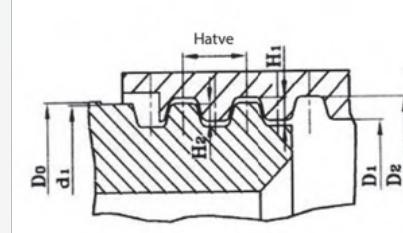
Reduction		
D1	D2	h (± 25)
125	113	225
140	125	260
160	140	300
175	140	375
175	160	300
185	175	300
200	175	400
200	185	300
225	200	560
250	225	350
280	225	575
280	250	660
330	280	590
400	330	750



Spur	
D	h (± 25)
113	227
125	240
140	257
160	300
175	295
185	320
200	322
225	348
250	370
280	410
330	464
355	490
400	541
400	750



Slot Sizes						
Ext. Dia		Slot Pieces (n)	Slot Width (W)			Pitch
mm	inch		2 mm Slit Area %	1 mm Slit Area %	0,5 mm Slit Area %	
88	3"	3	-	7	7	
113	4"	12	8,5	6,5	5,5	
125	4 1/2"	12	8,5	6,5	5,5	
140	5"	12	8,5	6,5	5,5	
160	5 1/2"	5	11	7,5	6	
175	6"	5	11	7,5	6	
185	6 1/2"	5	11	7,5	6	
200	7"	5	11	7,5	6	
225	7 1/2"	5	11	7,5	6	
250	8"	5	11	7,5	6	
280	8 1/2"	5	11	7,5	6	
300	9"	5	11	7,5	6	
330	9 1/2"	5	11	7,5	6	
355	10"	5	11	7,5	6	
380	10 1/2"	5	11	7,5	6	
400	11"	5	11	7,5	6	
420	11 1/2"	5	11	7,5	6	
440	12"	5	11	7,5	6	
460	12 1/2"	5	11	7,5	6	
480	13"	5	11	7,5	6	
500	13 1/2"	5	11	7,5	6	
520	14"	5	11	7,5	6	
540	14 1/2"	5	11	7,5	6	
560	15"	5	11	7,5	6	
580	15 1/2"	5	11	7,5	6	
600	16"	5	11	7,5	6	



Pipe Threads (Trapezoid) Sizes						
Ext.Dia. DO inchmm 88	D1	D2	d1	h1	h2	Pitch
3"	2.584	88.9	87.5	1.5	6	
4"	109.5	113.5	112.5	2.5	1.5	6
5"	125.4	132.1	120.5	1.25	1.5	6
5 1/2"	155.3	160.5				
6"	159.5	175.6	170.3	1.75	1.5	6
6 1/2"	180.3	185.5	184.5	3.12.1	6	185
7"	200.5	199.5				
7 1/2"	220.3	225.5	225.5	3.12.2	4.5	125
8"	241.5	250.5	249.5	5.4	12	270
8 1/2"	262.5	271.5	271.5	7.9	12	278
9"	280.3	290.5	290.5	10.4	12	294
9 1/2"	301.5	311.5	311.5	12.10	12	310
10"	321			4	12	
10 1/2"	344	353	352	5	12	
11"	367	376	375	5	12	
11 1/2"	390	400	397.5	5	12	
12"	413					
12 1/2"	436					
13"	459					
13 1/2"	482					
14"	505					
14 1/2"	528					
15"	551					
15 1/2"	574					
16"	597					

Drilling Trap

Hoisting Plug

Ext.Dia.														
mm	88	113	125	140	160	175	185	200	225	250	280	330	355	400
inch	3"	4"	4 1/2"	5"	5 1/2"	6"	7"	7 1/2"	8"	9"	10"	12"	14"	16"
88	88	113	125	140	160	175	185	200	225	250	280	330	355	400



# Pressure Clean Water Pipes (TS EN ISO 1452)

U-PVC Pressure Clean water pipes with a wide spectrum of pipes and fittings in different sizes and pressure classes in an ideal solution for water supply and irrigation. u-PVC pressure water pipes and fittings produced in accordance with TS 274 EN 1452 from high quality raw material in various sizes, length and pressures. (size; 50 to 400 mm, Standard lengths are 6 meters, for delivery in 20' or; 40' container should be 5,80 meters)

**U-PVC Pressure pipes could be assembled in two different methods :**

- Solvent cement socket joints
- Rubber seal type joints

pipes are marked to ensure full traceability of our products. In addition to the date and production time, we can go back to the raw material which was used to produce the pipe.

These pipes and fittings are used for a variety of application as water supply(city and industrial water network), irrigation, industrial-chemical & petrochemical process line, drainage & sewage applications, ducting electrical & telecommunication, firefighting systems, swimming pools.

**Advantages of U-PVC Pressure pipes;**

- Odorless and hygienic
- High corrosion resistance & chemical resistance
- Smooth internal bore for low friction losses & high flow rates
- Easier and quicker installation & Maintenance free
- Long lasting and service life
- Economical
- Light in weight

## Specifications

;

Raw Materials : U-PVC

Length : 6 meter

Ext. Dia. : Ø 50 mm up to Ø 400 mm

Pressure : PN 4 – PN 6 – PN 10 – PN16 6 mt. length

Color/Marking : Grey / Standard marking  
(others upon  
request)

## Tests;

Density	: $1350 \leq P \leq 1460 \text{ kg/m}^3$
Opacity	: Max. % 0,2
Vicat softening temperature	: $\geq 80^\circ\text{C}$
Resistance to dicchlormethane	: < 1 ppm
Impact strength	: TI R%10



# Pressure Clean Water Pipes (TS EN ISO 1452)

## Jointed Pipe

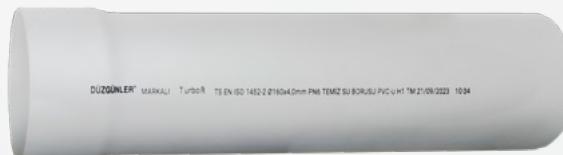


Ext. Dia. (D) mm	Muff Length KT (mm)	(S 16) (SDR 33) PN 6 s (mm)	(S 10) (SDR 21) PN 10 s (mm)	(S 6.3) (SDR 13.6) PN 16 s (mm)
Service (design) coefficient based as C=2.5 for PN				
Ø 50	86	1.6	2.4	3.7
Ø 63	90	2.0	3.0	4.7
Ø 75	94	2.3	3.6	5.6
Ø 90	97	2.8	4.3	6.7

Raw Material : U-PVC  
Pressure : 4-6-10-16 Atm  
Color : Grey, Blue, Black

Ext. Dia. (D) mm	Muff Length KT (mm)	(S 20) (SDR 41) PN 6 s (mm)	(S 12.5) (SDR 26) PN 10 s (mm)	(S 8) (SDR 17) PN 16 s (mm)
Service (design) coefficient based as C=2.0 for PN				
Ø 110	104	2.7	4.2	6.6
Ø 125	108	3.1	4.8	7.4
Ø 140	112	3.5	5.4	8.3
Ø 160	119	4.0	6.2	9.5
Ø 200	129	4.9	7.7	11.9
Ø 225	136	5.5	8.6	13.4
Ø 250	143	6.2	9.6	14.8
Ø 280	152	6.9	10.7	16.6
Ø 315	160	7.7	12.1	18.7
Ø 355	169	8.7	13.6	21.1
Ø 400	178	9.8	15.3	23.7

## Solvent Cement Socketed Pipe Y-MU-PVC



Ext. Dia. (D) mm	Muff Length KT (mm)	(S 16.7) (SDR 34.4) PN 6 s (mm)	(S 10) (SDR 21) PN 10 s (mm)	(S 6.3) (SDR 13.6) PN 16 s (mm)
Service (design) coefficient based as C=2.5 for PN				
Ø 32			1.6	
Ø 40			1.9	
Ø 50	31.0	1.6	2.4	3.7
Ø 63	37.5	2.0	3.0	4.7
Ø 75	43.5	2.3	3.6	5.6
Ø 90	51.0	2.8	4.3	6.7

Raw Material : U-PVC  
Pressure : 4-6-10-16 Atm  
Color : Grey, Blue, Black

Ext. Dia. (D) mm	Muff Length KT (mm)	(S 20) (SDR 41) PN 6 s (mm)	(S 12.5) (SDR 26) PN 10 s (mm)	(S 8) (SDR 17) PN 16 s (mm)
Service (design) coefficient based as C=2.0 for PN				
Ø 110	61.0	2.7	4.2	6.6
Ø 125	68.5	3.1	4.8	7.4
Ø 140	76.0	3.5	5.4	8.3
Ø 160	86.0	4.0	6.2	9.5
Ø 200	106.0	4.9	7.7	11.9
Ø 225	118.5	5.5	8.6	13.4
Ø 250	131.0	6.2	9.6	14.8
Ø 280	146.0	6.9	10.7	16.6
Ø 315	163.5	7.7	12.1	18.7
Ø 355	183.5	8.7	13.6	21.1
Ø 400	206.0	9.8	15.3	23.7

# Pressure Clean Water Pipes (TS EN ISO 1452)

## Bends Joint Socked Type

G-MK - G-MQ



PN 10 ATM PN 16 ATM		$\alpha=11^\circ$	$\alpha=22^\circ$	$\alpha=30^\circ$	$\alpha=45^\circ$	$\alpha=60^\circ$	$\alpha=90^\circ$
Ext. Dia d (mm)	Arc Radius (mm)	Zk	Zk	Zk	Zk	Zk	Zk
50	200	45	65	80	110	150	240
63	221	46	68	84	117	153	246
75	263	55	81	100	139	182	293
90	315	66	97	120	166	218	
110	385	81	119	147	203	266	429
125	438	92	135	167	231	303	488
140	490	103	151	187	259	339	546
160	560	118	173	214	296	387	624
184	700	216	268	370	484	780	225
200	270	334	462	605	975	280	980
222	306	302	375	518	678	1092	315
232	340	421	583	763	1229	355	1385
232	300	420	520	700	925	1450	400
232	350	450	550	750	1050	1350	1400
232	400	500	600	800	1100	1400	1500
232	450	550	650	850	1150	1450	1550
232	500	600	700	900	1200	1500	1600
232	550	650	750	950	1250	1550	1650
232	600	700	800	1000	1300	1600	1700
232	650	750	850	1050	1350	1650	1750
232	700	800	900	1100	1400	1700	1800
232	750	850	950	1150	1450	1750	1850
232	800	900	1000	1200	1500	1800	1900
232	850	950	1050	1250	1550	1850	1950
232	900	1000	1100	1300	1600	1900	2000
232	950	1050	1150	1350	1650	1950	2050
232	1000	1100	1200	1400	1700	2000	2100
232	1050	1150	1250	1450	1750	2050	2150
232	1100	1200	1300	1500	1800	2100	2200
232	1150	1250	1350	1550	1850	2150	2250
232	1200	1300	1400	1600	1900	2200	2300
232	1250	1350	1450	1650	1950	2250	2350
232	1300	1400	1500	1700	2000	2300	2400
232	1350	1450	1550	1750	2050	2350	2450
232	1400	1500	1600	1800	2100	2400	2500
232	1450	1550	1650	1850	2150	2450	2550
232	1500	1600	1700	1900	2200	2500	2600
232	1550	1650	1750	1950	2250	2550	2650
232	1600	1700	1800	2000	2300	2600	2700
232	1650	1750	1850	2050	2350	2650	2750
232	1700	1800	1900	2100	2400	2700	2800
232	1750	1850	1950	2150	2450	2750	2850
232	1800	1900	2000	2200	2500	2800	2900
232	1850	1950	2050	2250	2550	2850	2950
232	1900	2000	2100	2300	2600	2900	3000
232	1950	2050	2150	2350	2650	2950	3050
232	2000	2100	2200	2400	2700	3000	3100
232	2050	2150	2250	2450	2750	3050	3150
232	2100	2200	2300	2500	2800	3100	3200
232	2150	2250	2350	2550	2850	3150	3250
232	2200	2300	2400	2600	2900	3200	3300
232	2250	2350	2450	2650	2950	3250	3350
232	2300	2400	2500	2700	3000	3300	3400
232	2350	2450	2550	2750	3050	3350	3450
232	2400	2500	2600	2800	3100	3400	3500
232	2450	2550	2650	2850	3150	3450	3550
232	2500	2600	2700	2900	3200	3500	3600
232	2550	2650	2750	2950	3250	3550	3650
232	2600	2700	2800	3000	3300	3600	3700
232	2650	2750	2850	3050	3350	3650	3750
232	2700	2800	2900	3100	3400	3700	3800
232	2750	2850	2950	3150	3450	3750	3850
232	2800	2900	3000	3200	3500	3800	3900
232	2850	2950	3050	3250	3550	3850	3950
232	2900	3000	3100	3300	3600	3900	4000
232	2950	3050	3150	3350	3650	3950	4050
232	3000	3100	3200	3400	3700	4000	4100
232	3050	3150	3250	3450	3750	4050	4150
232	3100	3200	3300	3500	3800	4100	4200
232	3150	3250	3350	3550	3850	4150	4250
232	3200	3300	3400	3600	3900	4200	4300
232	3250	3350	3450	3650	3950	4250	4350
232	3300	3400	3500	3700	4000	4300	4400
232	3350	3450	3550	3750	4050	4350	4450
232	3400	3500	3600	3800	4100	4400	4500
232	3450	3550	3650	3850	4150	4450	4550
232	3500	3600	3700	3900	4200	4500	4600
232	3550	3650	3750	3950	4250	4550	4650
232	3600	3700	3800	4000	4300	4600	4700
232	3650	3750	3850	4050	4350	4650	4750
232	3700	3800	3900	4100	4400	4700	4800
232	3750	3850	3950	4150	4450	4750	4850
232	3800	3900	4000	4200	4500	4800	4900
232	3850	3950	4050	4250	4550	4850	4950
232	3900	4000	4100	4300	4600	4900	5000
232	3950	4050	4150	4350	4650	4950	5050
232	4000	4100	4200	4400	4700	5000	5100
232	4050	4150	4250	4450	4750	5050	5150
232	4100	4200	4300	4500	4800	5100	5200
232	4150	4250	4350	4550	4850	5150	5250
232	4200	4300	4400	4600	4900	5200	5300
232	4250	4350	4450	4650	4950	5250	5350
232	4300	4400	4500	4700	5000	5300	5400
232	4350	4450	4550	4750	5050	5350	5450
232	4400	4500	4600	4800	5100	5400	5500
232	4450	4550	4650	4850	5150	5450	5550
232	4500	4600	4700	4900	5200	5500	5600
232	4550	4650	4750	4950	5250	5550	5650
232	4600	4700	4800	5000	5300	5600	5700
232	4650	4750	4850	5050	5350	5650	5750
232	4700	4800	4900	5100	5400	5700	5800
232	4750	4850	4950	5150	5450	5750	5850
232	4800	4900	5000	5200	5500	5800	5900
232	4850	4950	5050	5250	5550	5850	5950
232	4900	5000	5100	5300	5600	5900	6000
232	4950	5050	5150	5350	5650	5950	6050
232	5000	5100	5200	5400	5700	6000	6100
232	5050	5150	5250	5450	5750	6050	6150
232	5100	5200	5300	5500	5800	6100	6200
232	5150	5250	5350	5550	5850	6150	6250
232	5200	5300	5400	5600	5900	6200	6300
232	5250	5350	5450	5650	5950	6250	6350
232	5300	5400	5500	5700	6000	6300	6400
232	5350	5450	5550	5750	6050	6350	6450
232	5400	5500	5600	5800	6100	6400	6500
232	5450	5550	5650	5850	6150	6450	6550
232	5500	5600	5700	5900	6200	6500	6600
232	5550	5650	5750	5950	6250	6550	6650
232	5600	5700	5800	6000	6300	6600	6700
232	5650	5750	5850	6050	6350	6650	6750
232	5700	5800	5900	6100	6400	6700	6800
232	5750	5850	5950	6150	6450	6750	6850
232	5800	5900	6000	6200	6500	6800	6900
232	5850	5950	6050	6250	6550	6850	6950
232	5900	6000	6100	6300	6600	6900	7000
232	5950	6050	6150	6350	6650	6950	7050
232	6000	6100	6200	6400	6700	7000	7100
232	6050	6150	6250	6450	6750	7050	7150
232	6100	6200	6300	6500	6800	7100	7200
232	6150	6250	6350	6550	6850	7150	7250
232	6200	6300	6400	6600	6900	7200	7300
232	6250	6350	6450	6650	6950	7250	7350
232	6300	6400	6500	6700	7000	7300	7400
232	6350	6450	6550	6750	7050	7350	7450
232	6400	6500	6600	6800	7100	7400	7500
232	6450	6550	6650	6850	7150	7450	7550
232	6500	6600	6700	6900	7200	7500	7600
232	6550	6650	6750	6950	7250	7550	7650
232	6600	6700	6800	7000	7300	7600	7700
232	6650	6750	6850	7050	7350	7650	7750
232	6700						

# PE 100 Pipes (TS EN ISO 12201)

PE100 is the third generation of pipe grade PE that resists to high pressure than previous and conventional PE materials. 3rd generation PE 100 raw material gets to be both high performance and economic solution to the potable water and natural gas networks areas.

It has an optimum balance of three key properties; Minimum Required Strength (MRS) – this provides long-term strength and creep resistance. Stress crack resistance (sometimes referred to as slow crack growth resistance). Rapid crack propagation resistance.

PE100 pipe is easy to install, light, flexible, corrosion-free and has a service life of up to 100 years. It can be jointed using butt fusion or electro-fusion to create a leak-free pressure network for gas or water.

PE100 pipes have been specially designed and manufactured using high quality virgin pipe grade raw materials and additives that accordance quality standards TS 12201 with ISO 9001:2015 quality management system.

PE100 pipes produced as coils and rolls in various diameter and length which is easy to install, light, flexible, corrosion-free and has a service life of up to 100 years. It can be jointed using compression PE fittings, butt fusion or electro-fusion couplers to create a leak-free pressure network for gas or water.

## Applications;

- Underground and aboveground drinking water and Water Supply networks
- Irrigation systems
- Sewer and drainage systems
- Geothermal facilities and systems
- Treatment facilities
- Fire extinguishing systems
- Compressed air and gas systems
- Submarine transition lines
- Deep-sea discharges
- Waste water discharge and pumping systems

## Advantages of Düzgünler PE 100 pipes;

- Excellent corrosion and chemical resistance.  
Inert to most acidic and alkaline solutions.
- High flow characteristics.
- Light in Weight.
- Easy to handle & transport.
- Excellent flexibility combined with strength.
- Good abrasion resistance.
- Smooth inner walls minimizes frictional losses.
- Safe for potable
- Hygienic



Technical Specifications	Value	Unit	Test Method
Color	Blue or Black(on blue strip)	Physical control	
Density (23°C)	>0.94	g/cm <sup>3</sup>	ISO 1183
Melt Flow Rate (MFR)190°C -5kg	0.2 -0.7	g/10/dk	ISO 1133
Elongation Break	≥ 350	%	EN ISO 6259 -1-3
Carbon Black amount	>2	%	ISO 6964
Dispersion of Carbon Black	Degree	Max 3	TS ISO 1142

\* Carbon black amount and dispersion data is just for black pipes

# Sprinkler Irrigation Pipes (TS EN 12201)

## Sprinkler Irrigation System;

Sprinkler irrigation system is conveys water from the source to the field in a closed circuit under a specific pressure and then sprinkles it as rainy. The water is conveyed to the field in the form of rain by means of sprinkler heads under high pressure and an even distribution is provided. Irrigation Pipes have been specially designed and manufactured using high quality virgin pipe grade HDPE raw materials and additives that accordance quality standards TS EN 12201 with applying ISO 9001:2015 quality management system in PN5 operation pressure as 5 and 6 meter length.



## Advantages;

- Durable, high resistant to impact
- High corrosion resistance & chemical resistance
- Long lasting & long service life
- Resistant to sunlight
- Light in weight, easy handling & easy joint
- Prevents water loss by providing sealing with reliable seal system.
- Prevent erosion.

## Important issues to be considered during the installation of sprinkler irrigation systems;

- The main pipe line should be installed in accordance with the dominant inclination.
- Sprinkler laterals should be installed vertical to dominant inclination and to the possible extent, parallel to the contour lines.
- where the wind speed is high, the laterals should be perpendicular to the direction of the wind.
- Assembling very long sprinkler lines and laterals should be avoided. Shorter laterals generally ensure homogeneous water distribution and saving workmanship.
- The lateral movement on the main line should be assembled to require a minimum labor.
- In order to ensure minimum lateral movement and changes in the quantity of the sprinklers which operate jointly and harmoniously, the area to be served must be arranged in square or rectangle to the possible extent.
- In case where more than one lateral must operate simultaneously, diameters of the laterals should preferably be equal or two different sizes maximum.
- The pipe sizes and arrangement of the system should be such as to minimize the annual costs.
- if possible, the pump unit should be located in the middle of the area to be irrigated as it allows the selection of appropriate and economical pipe diameters

# Irrigation Pipes (TS EN 12201)



Pipe										
Dia. mm	5 meter			6 meter						
	PN5	PN8	PN10	PN5	PN6	PN8	PN10	PN5	PN8	PN10
50	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
63	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
75	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
90	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
110	✓	✓								✓
125	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
140	✓	✓								✓
160	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



Male end Cap	Pipe Head (Female)
Dia. mm	Dia. mm
50	50
63	63
75	75
90	90
110	110
125	125
140	140
160	160



Pipe Head (Male)
Dia. mm
50
63
75
90
110
125
140
160

Elbow
Dia. mm
50
63
75
90
110
125
140
160

Main Line Valve
Dia. mm
50
63
75
90
110

Sprinkler
Stand Dia. mm
50
63
75
90
110



AL-40 SPRINKLER

AL-25 SPRINKLER



AL-30 SPRINKLER



AL-20 SPRINKLER



AL-20N SPRINKLER



Spherical Valve

# Irrigation Pipes

## (TS EN 12201)



Gasket
Dia. mm
50
63
75
90
110
125
140
160



Cross	Tee
Dia. mm	Dia. mm
50 x 50	50 x 50
63 x 63	63 x 63
75 x 63	75 x 63
75 x 75	75 x 75
90 x 50	90 x 50
90 x 63	90 x 63
90 x 75	90 x 75
90 x 90	90 x 90
110 x 50	110 x 50
110 x 63	110 x 63
110 x 75	110 x 75
110 x 90	110 x 90
110 x 110	110 x 110
125 x 50	125 x 50
125 x 63	125 x 63
125 x 75	125 x 75
125 x 90	125 x 90
125 x 110	125 x 110
125 x 125	125 x 125
140 x 75	140 x 75
140 x 90	140 x 90
140 x 110	140 x 110
140 x 125	140 x 125
140 x 140	140 x 140
160 x 75	160 x 75
160 x 90	160 x 90
160 x 110	160 x 110
160 x 125	160 x 125
160 x 140	160 x 140
160 x 160	160 x 160



Reduction
Dia. mm
63 x 50
75 x 50
75 x 63
90 x 50
90 x 63
90 x 75
110 x 75
110 x 90
125 x 75
125 x 90
125 x 110
140 x 90
140 x 110
140 x 125
160 x 110
160 x 125
160 x 140
160 x 140

Riser Pipe						
Length cm	50	60	80	100	150	200

# Corrugated Pipes

## (TS EN 13476)

Corrugated pipes used for many years in all over the world; having a high compressive strength and are serrated outer tube having rounded appearance. Double Wall corrugated pipes usually are used to transport the waste water and sewage system. The biggest reasons for preferring corrugated pipes are the high strength and economy. Rib system on the outer surface of the corrugated pipe is used to improve resistance to external pressure pipe. Referring to other plastic pipes most important characteristics of corrugated tubes is flexible and resistant to earthquakes besides resistant to abrasion and high chemical resistance.

Double Wall Corrugated Pipes have been specially designed and manufactured using high quality virgin pipe grade raw materials and additives that accordance quality standards EN 13476 with ISO 9001:2015 quality management system.

Double Wall Corrugated Pipes produced 6 meter length, with self-coupling (in line coupling-bell & spigot type) or without coupling (socket) and up to 1000 mm dia as SN4 or SN8.

Soil Surface

Top Layer

Covering Layer

Boster Layer

Ground

A : Bolster layer (cement or max. 100 mm. Gravel)

B : Ditch width( $d+400$  mm)

C : Covering layer

$\phi D$  : Pipe diameters

c1 : Top layer (min.300 mm)

a : 0.25xD

b : 0.75xD

E : Top layer (min. 500 mm)

H1 : Ditch depth

$\alpha$  : Bearing angle



### Applications:

- Sewer systems and drainage systems
- Power cable conduit & telecom cable duct.
- Detention / Retention Storm Water Lines.
- Building & Construction
- Agriculture / reclamation of land and soil amendment
- Rainwater and snow water piping systems
- Industrial sewage and industrial wastewater discharge systems
- Pressure-free and gravity fluid handling systems

- High Resistance Abrasion & Chemicals.
- Light in Weight - Easy to Handle & Transport.
- High Flow Rates
- Long Lasting & Service Life
- Leak Proof Joints

- Economical
- Excellent Flexibility
- Repair & Maintenance
- Labor & Time Savings
- Smooth Inner Surface
- Highest Strength Against Load & Ground Movement.

Biological waste and chemical waste handling system  
Advantages:

\* Standard length of with self-coupling (in line coupling-bell & spigot type) pipes are 6 meter

\* Without coupling (socket) pipes can produce customers upon request.

Nominal Dia. DN (mm)	Min. Int. Dia. ID (mm)	Max. Ext.Dia. OD (mm)	Length (m)*	Ring Stiffness	Joint type
100	96	122	12	SN 8	Spigot-Socket
150	146	169	6 - 12	SN 4-8	Spigot-Socket
200	196	229	6 - 12	SN 4-8	Spigot-Socket
300	297	336	6 - 12	SN 4-8	Spigot-Socket
400	450	495	6 - 12	SN 4-8	Spigot-Socket
500	495	562	6 - 12	SN 4-8	Spigot-Socket
600	550	692	6 - 12	SN 4-8	Spigot-Socket

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