



<https://trictrading.com>

TRI C TRADING

FOR PLASTIC INDUSTRIES PIPES AND FITTING SYSTEMS



مركز
تكنولوجيا
البلاستيك



Vision:

Entrepreneurship plastic, metal products and modern manufacturing systems.

Mission:

our mission is providing the best customer service and technical support for technicians and develop products to meet international standards in the field of plastic, metal industries and modern systems using the latest technologies in all fields.

Innovation through young professional, distinct and harmonious team to build a bright future and contribute to uphold Made in Egypt in the local and regional market.

Values:

- Commitment.
- Innovation.
- Integration.
- Harmony.

PP-R PIPES AND FITTINGS SYSTEM



TRI C TRADING PPR Pipes and fittings are manufactured according to the German and International Standards.

German Standards:

DIN 8077 Dimension of Pipes.
DIN 8078 General quality and testing of fittings.
DIN 16962 Part 5 General qualities and testing of fittings.
DIN 16962 Part 2,4,6,7,8,9,10,13 Dimension of Fittings.
DIN 1988 Technical rules for drinking water installations.

International Standards:

ISO 15874 Plastic Pipe System for hot and cold Water installations.
Part 1 General
Part 2 Pipes
Part 3 Fittings

1- Pipes :

Color: green with one red line.
International Standards ISO 9001 / 2000 German STD DIN 8077 – 8078
Type of resin PP-R type 3
Class pipe acc. (SDR & S) & PN (16 - 20)
Size
Time and Date of Production.

2 – Fittings :

Color: green
International Standards ISO 9001 / 2000 German STD DIN 8077 – 8078
Type of resin PP-R type 3
Class Fitting acc. (SDR & S) & PN (25)
Size

GENERAL CHARACTERISTICS

Scope and field of application

The polymer type used for **TRI C TRADING** pipes system is thermoplastic propylene random copolymers PP-R (type3)

Hygienic suitability :

According to DIN 1988 T2 and the law for food commodity the PP-R materials which is directly in contact with potable water are commodity good.

The effect on the domestic water :

The increasing use of PP-R in the field of food packing confirms the hygienic qualities of the materials this makes **TRI C TRADING** the optimal packing for one of our most precious commodity goods for portable water. The domestic supply system should influence the water on its way up to the taps as little as possible. Choosing the right domestic water pipes system and its materials is of decisive importance pipes system are suitable for all different qualities of potable water.

Easy to install:

It's flexible, light, easy to cut and easy to be fused for installation.

Smooth:

The smooth internal surface of PP-R products reduces frictional losses and prevents fouling and scaling on long term, this maintains a greater capacity for a given diameter than with conventional products.

U.V Resistance:

PP-R pipes and fittings should not be installed (without protection) when subjected to UV radiation.

TRI C TRADING pipes and fittings have UV stabilizer to bridge transport and installation times. Maximum storage time in the open air is 6 months.

Fire Resistance:

TRI C TRADING pipes system is normally inflammable and this reduces the risk of fire.

TRI C TRADING pipes system do not produce any toxic gases and it gives no risk of dioxin emission.

Environmental Effect:

TRI C TRADING pipes system is physiologically, environmentally and microbiologically harmless.

Durability:

TRI C TRADING pipes system has extrapolated durability more than 50 years' peak temperature of 100 arising from short disruptions are un problematic.

Brass:

Nontoxic brass.

Have the highest fixation power in the PP-R Product cause it has the largest types of fixations (fixations teeth, slots & knurl)

General Properties

TRI C TRADING Pipes system stops corrosion with no effect on the flow rate.

TRI C TRADING Pipes system have no danger of algae development installation.

TRI C TRADING Pipes system offers a unique and unrivalled connection process : material by fusion.

TRI C TRADING Pipes system connection can be hydraulic pressure tested or put in to operation directly after their fusion there are no waiting times .

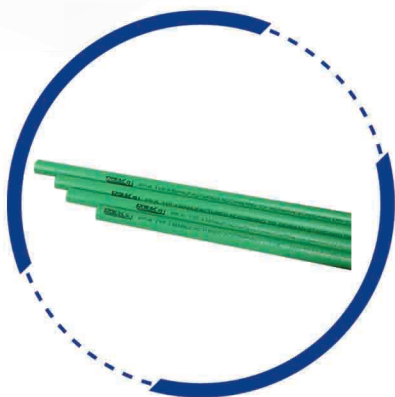
flow rate increased due the large inner diameter .

Typical Value	Test Method	Main Value	Unit
physical properties			
Density 23 °c	ISO 11 83	0.895	g / cm 2
Vicat softening Temperature (0.98N)	ISO 306	130	°C
Rheology			
Melt Mass Flow Rate MFR(230°C/2.16kg)	ISO 1133	0.3	g /10 min
Mechanical Properties			
Tensile modules (1mm / min)	ISO 527 - 1.2	900	Mpa
Tensile Stress yied (50mm / min)	ISO 527 - 1.2	27	Mpa
Tensile Strain yied (50mm / min)	ISO 527 - 1.2	13	%
Charpy impact strength at -23 °c	ISO 1791/eU	N.B	KJ/m2
Charpy impact strength at -20 °c	ISO 1791/eU	30	KJ/m2
Charpy impact strength Notched at -20°C	ISO 1791/eU	38	KJ/m2
Charpy impact strength Notched at -20 °c	ISO 1791/eU	2	KJ/m2
Thermal Properties			
Heat deflection (Temperature 0.45 Mpa (HTD/B)	ISO 75 - 1.2	88	°C
Mean coefficient of linear (Thermal Expansion 0:110 °c)	DIN 53752	1.5 x	K ⁻¹
Thermal conductivity	DIN 52612 -1	0.23	K ⁻¹ M ⁻¹
Electrical Properties			
Surface resistance	DIN 53482	>10 ¹³	Ohm.cm

PP-R PIPES DIMENSIONS

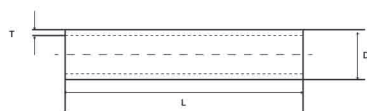
PP-R Pipes Dimensions acc . To Din 8077

	Pipe series (S)															
	20		16		12.5		8.3		5		3.2		2.5		2	
	Pressure Reting															
d	PN 2.5		PN3.2		PN 4		PN 6		PN 10		PN 16		PN 20		PN 25	
	Standard dimension ratio (SDR)16															
	41		33		26		17.6		11		7.4		6		5	
	S	mass in kg/m	S	mass in kg/m	S	mass in kg/m	S	mass in kg/m	S	mass in kg/m	S	mass in kg/m	S	mass in kg/m	S	mass in kg/m
10	-	-	-	-	-	-	-	-	-	-	-	-	1.8	0.046	2.0	0.050
12	-	-	-	-	-	-	-	-	-	-	1.8	0.057	2.0	0.062	2.4	0.071
16	-	-	-	-	-	-	-	-	-	-	2.2	0.095	2.7	0.110	3.3	0.128
20	-	-	-	-	-	-	-	-	1.9	0.107	2.8	0.148	3.4	0.172	4.1	0.198
25	-	-	-	-	-	-	-	-	2.3	0.164	3.5	0.230	4.2	0.266	5.1	0.307
32	-	-	-	-	-	-	1.8	0.172	2.9	0.261	4.4	0.370	5.4	0.434	6.5	0.498
40	-	-	-	-	1.8	0.217	2.3	0.273	3.7	0.412	5.5	0.575	6.7	0.671	8.1	0.775
50	-	-	1.8	0.274	2.0	0.301	2.9	0.422	4.6	0.638	6.9	0.896	8.3	1.04	10.1	1.21
63	1.8	0.349	2.0	0.382	2.5	0.474	3.6	0.659	5.8	1.01	8.6	1.41	10.5	1.85	12.7	1.91
75	1.9	0.438	2.3	0.528	2.9	0.647	4.3	0.935	6.8	1.41	10.3	2.01	12.5	2.34	15.1	2.70
90	2.2	0.616	2.8	0.758	3.5	0.936	5.1	1.33	8.2	2.03	12.3	2.87	15	3.36	18.1	3.88
110	2.7	0.903	3.4	1.12	4.2	1.37	6.3	1.99	10.0	3.01	15.1	4.30	18.3	5.01	22.1	5.78
125	3.1	1.18	3.9	1.45	4.8	1.76	7.1	2.55	11.4	3.91	17.1	5.35	20.8	6.47	25.1	7.46
140	3.5	1.48	4.3	1.80	5.4	2.23	8.0	3.2	12.7	4.87	19.2	6.95	23.3	8.12	28.1	9.35
160	4.0	1.91	4.9	2.32	6.2	2.92	9.1	4.17	14.6	4.87	21.9	9.04	26.6	10.6	32.1	12.2



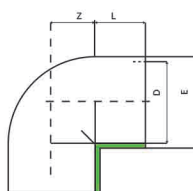
PIPES

D	L	PN			
32	4000	16			
50	4000	16			
63	4000	16			
75	4000	16			
90	4000	16	D	L	PN
110	4000	16	50	4000	20
20	4000	20	63	4000	20
25	4000	20	75	4000	20
32	4000	20	90	4000	20
			110	4000	20



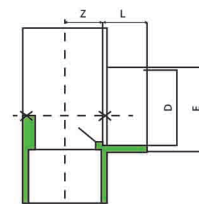
ELBOW 90

D	L	Z	E
20	16	12	30
25	18	15	36
32	20	20	46
50	25	30	66
63	28	35	81



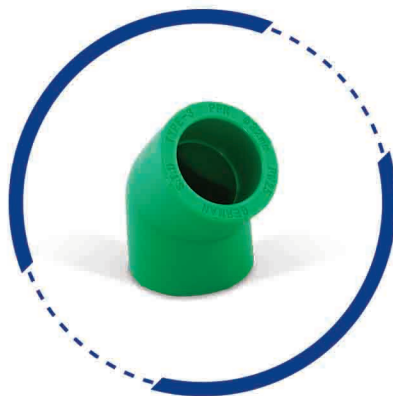
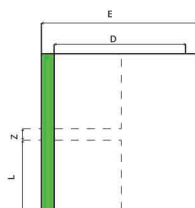
TEE 90

D	L	Z	E
20	16	11	30
25	19	14	36
32	22	18	45
50	29	27	66
63	33	32	82



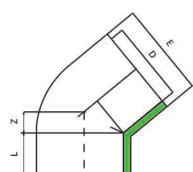
SOCKET

D	L	Z	E
20	34	4	30
25	37	4	36
32	43	4	46
50	55	5	66
63	63	6	81



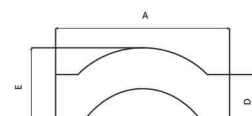
ELBOW 45

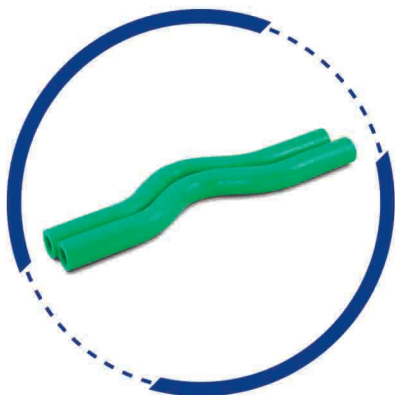
D	L	Z	E
25	18	8	34
32	18	10	44



CROSSOVER
Two Socket

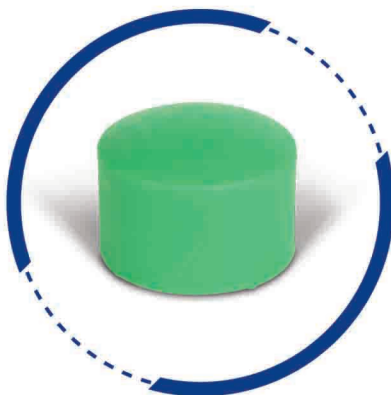
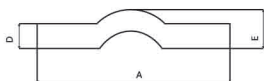
D	A	E
20	100	45
25	120	55





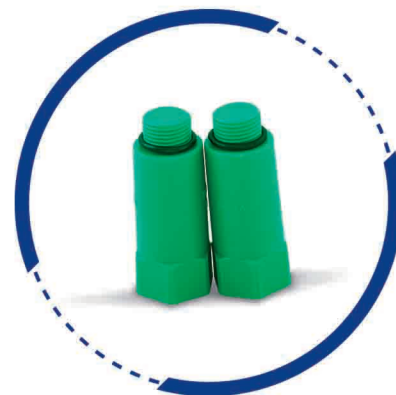
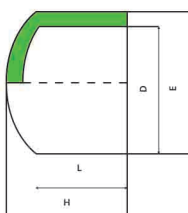
CROSSOVER

D	A	E
20	300	55
25	300	65



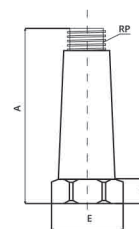
CAP

D	L	H	E
20	20	23	30
25	23	25	35
32	27	30	45
50	29	35	65
63	38	50	80



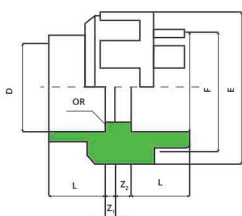
TEST CUP

A	E	H	RP
82	35	20	1/2"



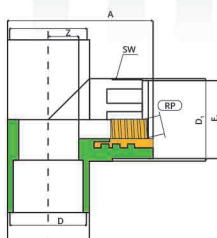
SOCKET UNION

D	E	F	Z1	Z2	L
25	60	36	6	16	20
32	65	40	7	20	22



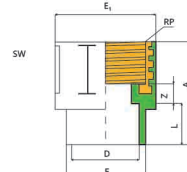
TEE 90
Female Threaded

D/RP	Z	Z1	E	E1	A	L	SW
20×1/2"	24	15	30	35	68	58	39
25×1/2"	24	15	35	35	72	63	39
32×1"	25	20	45	52	82	80	55



SOCKET
Female Threaded

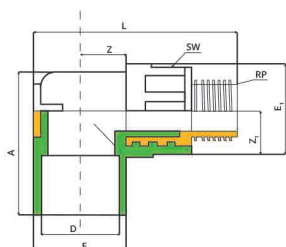
D/RP	Z	E	E1	A	S	SW
20×1/2"	38	30	35	40	16	39
25×1/2"	38	35	35	40	16	39
25×3/4"	25	35	46	43	16	48
32×3/4"	25	45	46	45	18	48
32×1"	45	45	52	51	18	55
50×1 1/2"	50	66	76	61	24	81
63×2"	60	81	91	82	26	98





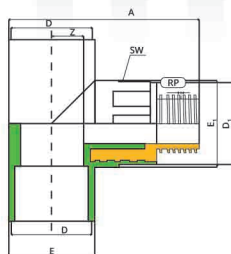
ELBOW 90
Male Threaded

D/RP	Z1	E	E1	A	L	SW
25× 1/2"	15	35	37	37	48	72 39



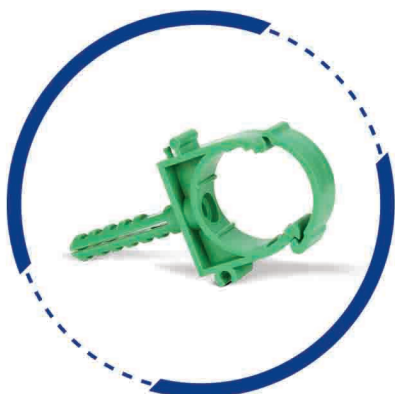
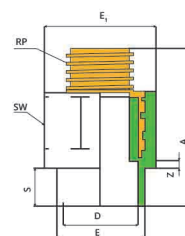
TEE 90
Male Threaded

D/RP	Z	Z1	E	E1	A	L	SW
20× 1/2"	24	15	30	35	68	58	39
25× 1/2"	24	15	35	35	72	63	39
32× 1"	25	20	45	52	82	80	55



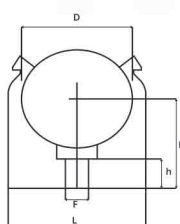
SOCKET
Male Threaded

D/RP	Z	E	E1	A	S	SW
20× 1/2"	38	30	35	55	16	39
25× 1/2"	38	35	35	55	16	39
32× 1"	45	45	52	66	18	55
50× 1 1/2"	50	66	76	76	24	81
63× 2"	60	81	91	87	26	98



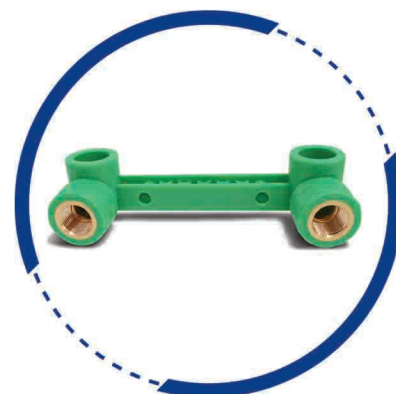
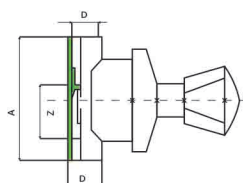
FISHER

D	F	L	H	h
20	10	27	18	9
25	10	32	20	9
32	10	39	22	9



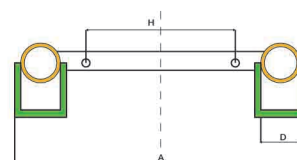
CONCEALED VALVE

D	A	Z	E
20× 3/4"	74	43	30
25	78	46	35



TEST CUP

D/RP	A	H
25× 1/2"	188	78



UPVC PIPES & FITTINGS SYSTEM



Basic Information

Material

Poly Vinyl Chloride (PVC)

Test Marks

Un Plasticized Poly Vinyl Chloride

K – Value 67 for Pipe

K – Value 57 for Fitting

Quality Requirements

ES 1717 (2008) , DIN 8061 , DIN 8062 , DIN 19531 , EN 1329 and Dimension according to ISO 160 Part 1 & 2 Technical recommendation of installation

Color

White Pipe by one blue longitudinally line.

Chemical Resistance

resistant to inorganic salts, concentrated bases and mineral as found in laboratory discharges organic solvent, will not dissolve PVC.

Marking

Pipe bear the following permanent marks in color.

UPVC DWV 110 3 mm m/c (1) S. (1) 11:45 72017/7/ ES 1717

Made in EGYPT by CO. For Plastic Industries.

- 1- The brand
- 2- Material type.
- 3- Drain, waste and vent (DWV) systems.
- 4- The nominal size.
- 5- The extrusion lines no.
- 6- The Quality control shift no.
- 7- The production shift no.
- 8- The date and the time of manufacture.
- 9- The number of the standard specification ES 1717.

Fittings show the angles degree of the branches, the number of cavity, the month and the year of production.

Out side Diameter (OD)

32 – 48 – 60 – 75 – **90** – 110 – **114** – 160 – **168** – 200 mm

Laying Length

6000mm

Jointing

PVC VEMENT

Application Drainage inside building and factories drainage of aggressive fluids.

THE ADVANTAGES OF UPVC PIPE SYSTEM

The group of materials known as unplasticized PVC is one of the most important developments of the last few decades. It has reduced the cost and improved the reliability of pipeline installations. The properties can vary by addition of small modifying agents which have definite and controlled mechanical properties. They can be fabricated to close dimensional tolerances, light without being weak. Rigid without being brittle. Furthermore, these materials can be converted into pipes and fittings by variable direct processes of extrusion or injection molding even though these processes demand heavy elaborate machinery and very precise processes.

The principal reason for the great handling of **TRI C TRADING** pipes is not only their cost per meter as delivered to the site but also the dramatic reduction in installation costs which can be achieved by intelligent exploitation of their light weight. Higher availability in longer lengths. Their easy jointing and their resistance to corrosion. These characteristics are of even greater importance to engineers now that the need to carry out water supply and sewerage schemes. Industrial plant installation, etc. at minimum cost and maximum reliability.

NON – Corrosive

UPVC pipes resist corrosion caused by acid, alkalis, salts, oils, moisture and the media inside and outside the pipe.

NON – ToXIC

UPVC pipes are entirely non-toxic. It will not affect the taste, Smell of water or liquid it doesn't react with any liquid to cause precipitation.

LOW FLOW LOSSES

UPVC pipes have a mirror – smooth surface which minimize resistance and impede the build – up of deposits and corrosive scales.

MECHANICAL STRENGTH

UPVC pipes have great tensile strength yet they are flexible enough to withstand displacements in the pipe line. They will not dent or flatten under pressure.

LIGHT WEIGHT

UPVC pipes are incredibly light. Their specific weight is one fifth that of steel pipe this cuts down transportation costs and facilitates the installation of pipe and reduces its cost.

EASE OF INSTALLATION

UPVC pipes are quick and easy to install, with a complete range of fittings using solvent cement or rubber joints are leak proof UPVC pipes can be cut easily for installation.

EASY OF MAINTENANCE

UPVC pipes can be quickly repaired with minimum complication and cost.

FIRE PROOF

UPVC pipes will not support combustion. In the event of fire, flames are unable to travel along the pipe. It is self-extinguishing.

INSULATOR

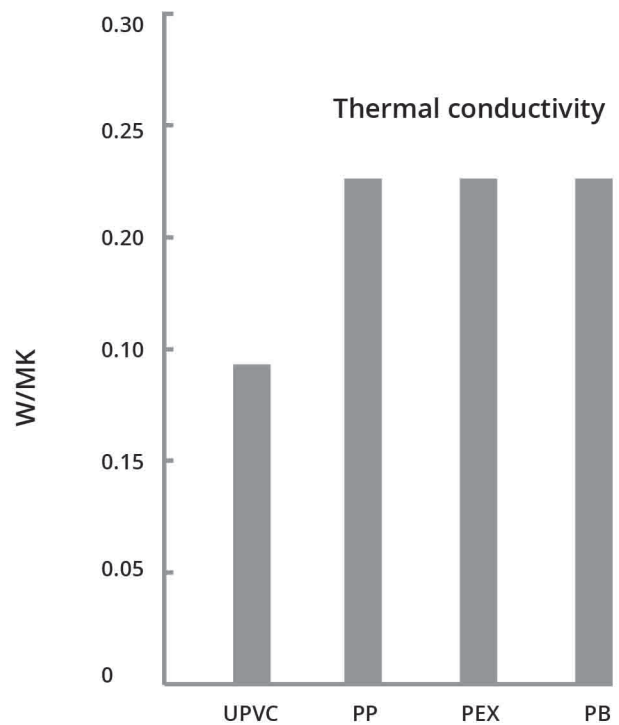
UPVC pipes are ideal for electric conduits. Because UPVC itself is an integral insulator, it eliminates the possibility of electrolytic corrosion which so often destroys underground piping.

PROVEN EXPERIENCE

UPVC pipes have been used worldwide for 45 years in all climates. The experience that many of its users have proved is its supreme quality, economy, ease of installation, and its non – corrosive qualities.

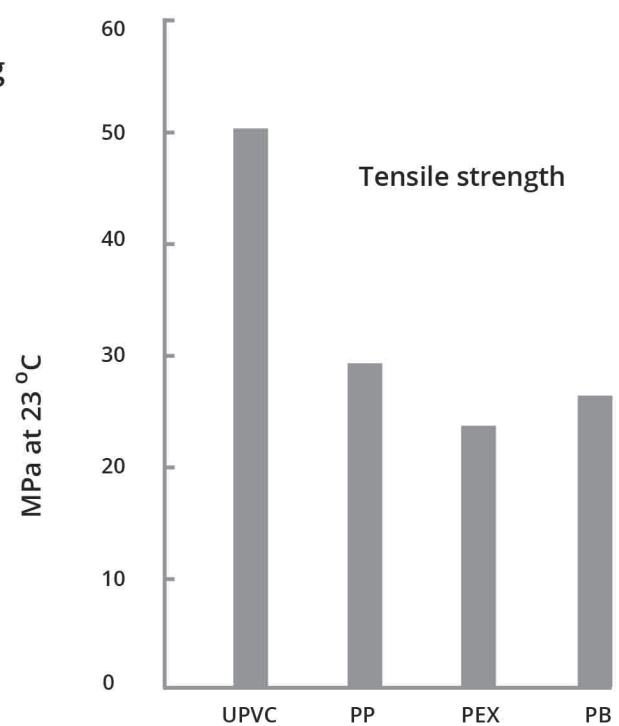
LOWER THERMAL CONDUCTIVITY

Reduced heat losses

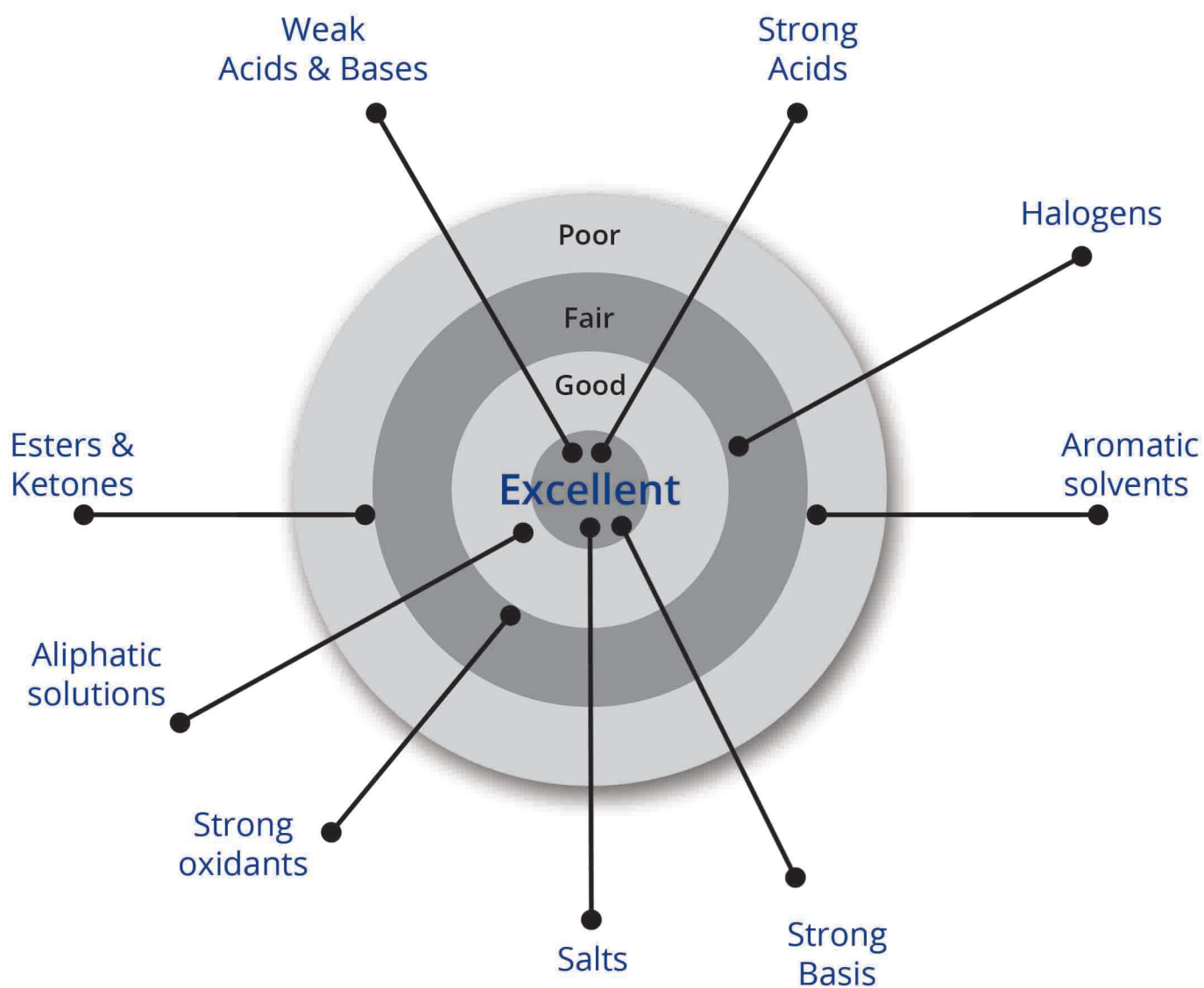


TOUGH, RIGID MATERIAL

UPVC has a much higher strength/modulus than other thermoplastics used in plumbing applications



PVC EXCELLENT CHEMICAL RESISTANCE



MATERIAL

Unplasticized Polyvinyl Chloride (UPVC)

General prperties	upvc value	UNITS
Density	>	g/cm ³
Water absorption	<4	mg/cm ²
Flammability	self extinguishing	

Mechanical Properties

Ultimate Tensile Strength	492	kg/cm ²
Compressive Strength	668	kg/cm ²
Flexural strength	950	kg/cm ²
Modulus of Elasticity	2.7×10^4	kg/cm ²
Impact Strength (Sharpy)	No Break > 10 %	
Shore Hardness (Rockwell)	115	R

Thermal Properties

Softening Point		
v.s.t 5 kg	$\frac{\text{pipes}}{\geq 79^\circ}$ $\frac{\text{fittings}}{\geq 76^\circ}$	°C
Max. Operating temperature	60	°C
Coefficient of Thermal Expansion	3×10^{-5}	In/In/°f
Specific Heat	0.25	Cal/g. °C
Thermal Conductivity	0.13	Kcal/m.h. °C

Electrical Properties

Volume Resistivity	$> 10^{14}$	Ohm.cm
Surface Resistance	$> 10^{12}$	Ohm
Dielctric Strength	> 40	Kv/mm
Power Factor (at 10 cycle)	3.3	

UPVC are non -conductor of electricity and are not subjected to galvanic or electrolytic attack .

UPVC PIPES DIMENSIONS

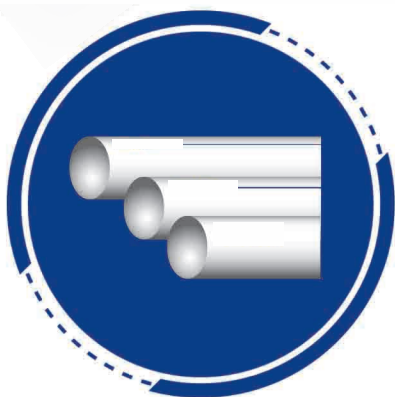
UPVC pipes according to German Standards DIN 8061 / 8062

Applications: potable water, irrigation, and industrial uses.

Class V 16 bar		Class IV 10 bar		Class III 6 bar		Class II 4 bar		Class I 2bar		Socket depth mm	Nominal Outside Diameter mm
NO.wt KgLm	NO.thick of Wall mm	NO.wt KgLm	NO.thick of Wall mm	NO.wt KgLm	NO.thick of Wall mm	NO.wt KgLm	NO.thick of Wall mm	NO.wt KgLm	NO.thick of Wall mm		
0.045	1.0	-	-	-	-	-	-	-	-	-	10
0.055	1	-	-	-	-	-	-	-	-	-	12
0.09	1.2	-	-	-	-	-	-	-	-	-	16
0.137	1.5	-	-	-	-	-	-	-	-	-	20
0.212	1.9	0.174	1.5	-	-	-	-	-	-	-	25
0.342	2.4	0.264	1.8	-	-	-	-	-	-	-	32
0.525	3	0.35	1.9	0.334	1.8	-	-	-	-	-	40
0.809	3.7	0.552	2.4	0.422	1.8	-	-	-	-	75	50
1.289	4.7	0.854	3	0.562	1.9	-	-	-	-	100	63
1.82	5.6	1.22	3.6	0.782	2.2	0.642	1.8	-	-	110	75
2.61	6.7	1.75	4.3	1.13	2.7	774	1.8	-	-	110	90
3.9	8.2	2.61	5.3	1.64	3.2	1.16	2.2	0.95	1.8	115	110
5.01	9.3	3.34	6	2.13	3.7	1.48	2.5	1.08	1.8	120	125
6.27	10.4	4.18	6.7	2.65	4.1	1.84	2.8	1.21	1.8	125	140
8.17	11.9	5.47	7.7	3.44	4.7	2.41	3.2	1.39	1.8	132	160
10.4	13.4	6.88	8.7	4.37	5.3	3.02	3.6	1.57	1.8	145	180
12.8	14.9	8.51	9.6	5.37	5.9	3.7	4	1.74	1.8	145	200
16.1	16.7	10.8	10.8	6.76	6.6	4.7	4.5	1.96	1.8	152	225
19.9	18.6	13.2	11.9	8.31	7.3	5.65	4.9	2.4	2	160	250
24.9	20.8	16.6	13.4	10.4	8.2	7.11	5.5	3.11	2.3	170	280
31.5	23.4	20.9	15	13.2	9.2	9.02	6.2	3.78	2.5	180	315
39.9	26.3	26.5	16.9	16.7	10.4	11.4	7	4.87	2.9	180	355
50.8	29.7	33.7	19.1	21.1	11.7	14.5	7.9	6.1	3.2	200	400
-	-	42.7	21.5	26.8	13.2	18.3	8.9	7.65	3.6	200	450
-	-	52.6	23.9	32.9	14.6	22.4	9.8	9.37	4	250	500
-	-	65.8	26.7	41.4	16.4	28.1	11	11.8	4.5	260	560
-	-	83.2	30	52.2	18.4	35.7	12.4	14.7	5	300	630
-	-	-	-	66.1	20.7	45.3	14	18.9	5.7	320	710
-	-	-	-	83.9	23.3	57.2	15.7	23.9	6.4	360	800

UPVC pipes according to American Standards ASTM D 2241 (SDR) Series

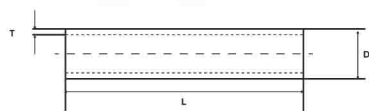
Item No.	Nominal Size (inch) Outside (D) mm		Wall Thickness				
			SDR 21 (13.8 Bar)	SDR 26 (11.0 Bar)	SDR 32.5 (8.6 Bar)	SDR 41 (6.9 Bar)	SDR 64 (4.3 Bar)
1	1/2"	21.34	-	-	-	-	-
2	3/4"	26.67	1.52	-	-	-	-
3	1"	33.40	1.60	1.52	-	-	-
4	1 1/4"	42.16	2.01	1.63	1.52	-	-
5	1 1/2"	48.26	2.29	1.85	1.52	-	-
6	2"	60.32	2.87	2.31	1.85	-	-
7	3"	88.90	4.24	3.43	2.74	2.16	-
8	4"	114.30	5.44	4.39	3.51	2.79	1.78
9	6"	168.28	8.03	6.48	5.18	4.11	2.64
10	8"	219.08	10.41	8.43	6.73	5.33	3.43



PIPE SUPPLY WATER SYSTEM

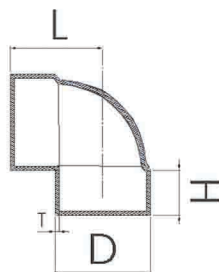
New

CODE NO.	D	T	T	CODE NO.	D	T	L
2025020354	32	1.8	6	2025020463	90	3	6
2025020355	32	2.4	6	2025020464	90	4	6
2025020356	48	2.5	6	2025020468	114	3	6
2025020357	48	3.7	6	2025020469	114	4	6
2025020358	60	2.7	6	2025020470	114	5	6
2025020359	60	3.9	6	2025020474	168	4	6
2025020360	75	3	6	2025020475	168	5	6
2025020361	75	4	6				
2025020362	75	5	6				
2025020365	110	3	6				
2025020366	110	4	6				
2025020357	110	5	6				
2025020371	160	3	6				
2025020372	160	4	6				
2025020373	160	5	6				



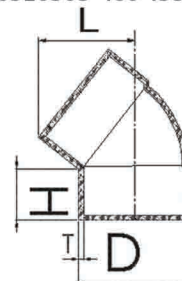
ELBOW 90 $\beta=90$

CODE NO.	D	L	H	T
2020120301	48	55	30	4
2020120302	60	70	35	4
2020120303	75	92	45	4.5
2020120304	110	115	52	5.5
2020120305	160	160	70	5.5



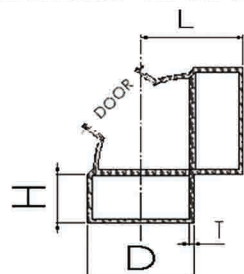
ELBOW 45 $\beta=45$

CODE NO.	D	L	H	T
2020320301	48	50	30	3.5
2020320302	60	60	40	4
2020320303	75	70	45	4
2020320304	110	94	55	4.5
2020320305	160	135	70	5.5



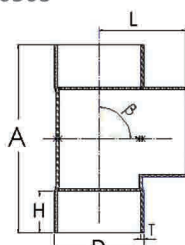
ELBOW 90 With Access $\beta=90$

CODE NO.	D	L	H	T	DOOR
2020220302	60	70	35	4	75
2020220303	75	92	45	4.5	75
2020220304	110	115	52	5.5	110
2020220305	160	160	70	5.5	100



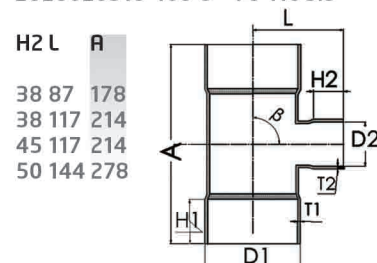
TEE 90 $\beta=90$

CODE NO.	D	L	H	T	R
2020420301	48	60	30	3.7	118
2020420302	60	72	38	4	145
2020420303	75	90	45	4.5	180
2020420304	110	112	50	5.5	230
2020420305	160	165	70	6	320



TEE 90 Reducer $\beta=90$

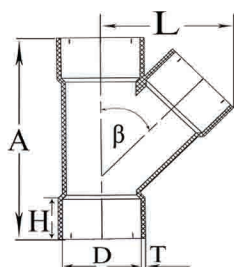
CODE NO.	D1	T1	H1	D2	T2
2020620307	75	4.5	45	60	4
2020620308	110	5.5	50	60	4
2020620309	110	5.5	50	75	4.5
2020620310	160	6	70	110	5.5





TEE 45
 $\beta=45$

CODE NO.	D	L	H	T	A
2020820301	48	82	30	3.7	140
2020820302	60	108	38	4	170
2020820303	75	134	46	4.5	230
2020820304	110	186	52	5.5	280
2020820305	160	257	70	6.5	380

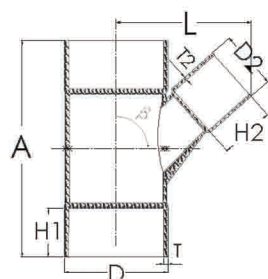


TEE 45
Reducer $\beta=45$

CODE NO.	D	D2	L	H1	H2	T1
2020920308	110	60	157	50	45	6
2020920310	160	110	240	70	50	6.5

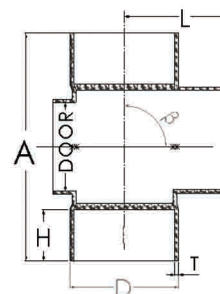
T2 A

5	220
5.5	350



TEE 90
With Door $\beta=90$

CODE NO.	D	L	H	T	A	DOOR
2020520303	75	90	45	4.5	180	75
2020520304	110	112	50	5.5	230	110
2020520305	160	165	70	6	320	110

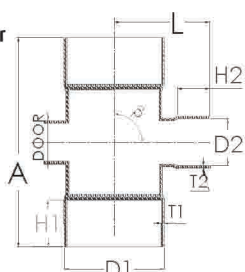


TEE 90
Reducer With Door $\beta=90$

CODE NO.	D1	T1	H1	D2	T2
2020620307	75	4.5	45	60	4
2020620308	110	5.5	50	60	4
2020620309	110	5.5	50	75	4.5
2020620310	160	6	70	110	5.5

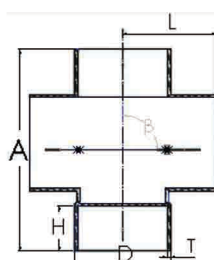
H2 L A Door

38	87	178	75
38	117	214	75
45	117	214	75
50	144	278	110



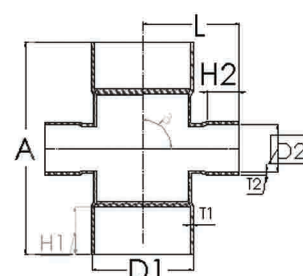
Tee +90
 $\beta=90$

CODE NO.	D	L	H	T	A
2021020303	75	87	45	4.5	178
2021020304	110	115	45	5	230



Tee +90
Reducer $\beta=90$

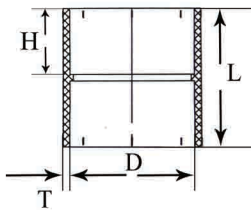
CODE NO.	D1	D2	L	H1	H2	T1	T2
2021120308	110	60	117	50	38	5	5





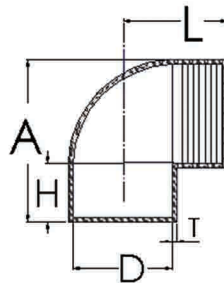
SOCKET

CODE NO.	D	L	H	T
2021320301	48	60	30	4.5
2021320302	60	80	40	4.5
2021320303	75	95	45	4.5
2021320304	110	100	50	5
2021320305	160	145	70	6



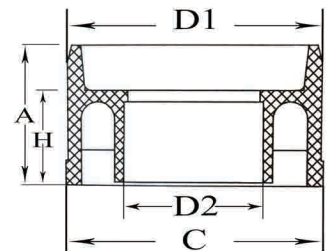
ELBOW With Thread $\beta=90$

CODE NO.	D	D	H	T	A
2021220301	48	55	30	4	85



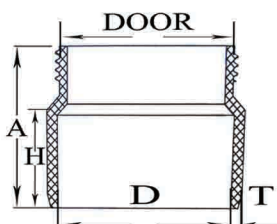
REDUCING BRUSH

CODE NO.	D1	D2	C	A	H
2021620306	60	48	59	45	35
2021620307	75	60	74	45	44
2021620308	110	60	109	60	43
2021620309	110	75	109	60	42
2021620310	160	110	158	77	49



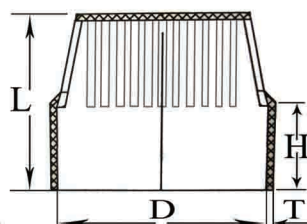
CLEANING INSERT

CODE NO.	D	A	H	T	DOOR
2021720302	60	63	30	5.5	55
2021720303	75	70	40	5.5	75
2021720304	110	91	50	5.5	110
2021720305	160	120	75	6	110



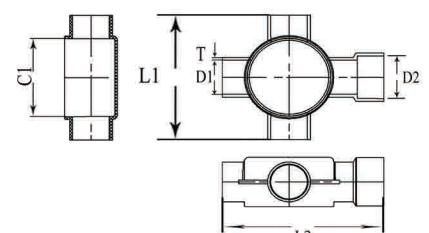
AIR VENT

CODE NO.	D	L	H	T
2021520302	60	80	35	3
2021520303	75	100	45	3.5
2021520304	110	130	50	5.5



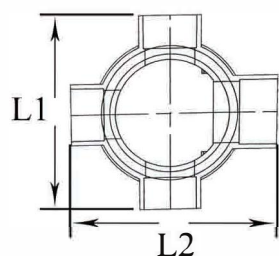
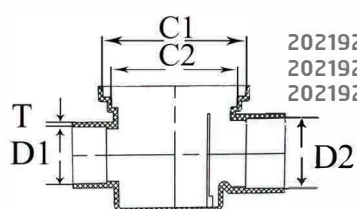
FLOOR DRAIN 7 cm

CODE NO.	D1	D2	T	C1	L1	L2
2022020306	48	60	4.5	110	147.5	210

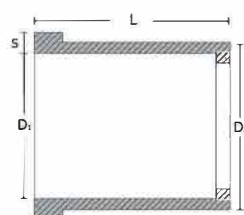




FLOOR DRAIN 10 cm

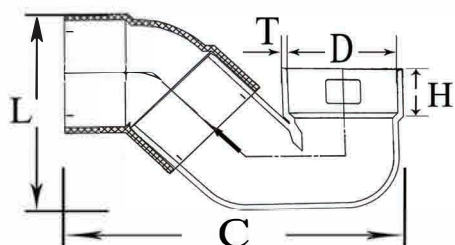


CODE NO.	D1	D2	T	C1	C2	L1	L2
2021920306	48	60	4.5	125	110	170	185
2021920311	60	60	4.5	\	110	180	190
2021920307	75	60	4.5	\	110	180	190



BUSHING 110/114

CODE NO.	D1	D2	L	S
2022120314	11.4	11	4	4.4



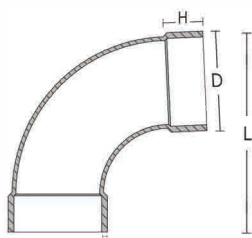
SIPHON

CODE NO.	D	T	H	C	L
2021820304	110	4.5	50	290	220



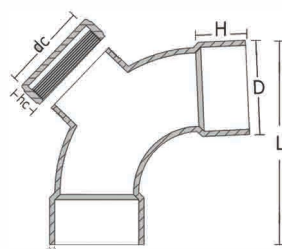
ELBOW 87.5
 $\beta=87.5$

CODE NO.	D	L	S	H
2020120301	5.6	10.2	4	3.5
2020120302	6.9	12.6	4	3.9
2020120303	8.5	15	5	4.5
2020120304	12.3	20.9	6.5	5.6
2020120305	17.3	29	6.5	8.1



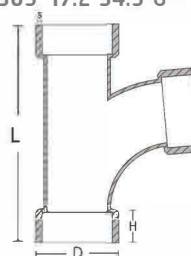
ELBOW 87.5
With Access Cap $\beta=87.5$

CODE NO.	D	L	S	H	Hc	DC
2020220302	6.8	12.6	4	4	2.2	7.4
2020220303	8.5	15.2	5	4.6	2.2	7.4
2020220304	12.2	20.8	6	5.5	2.6	10.8
2020220305	17.2	22.6	6	8.2	2.6	10.8



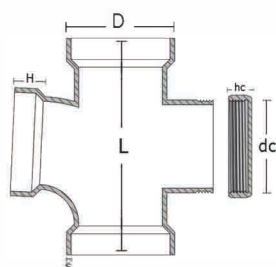
TEE 87.5
 $\beta=87.5$

CODE NO.	D	L	S	H
2020420301	5.6	12.6	4.2	3.5
2020420302	6.8	15.3	4	4
2020420303	8.4	19	4.5	4.6
2020420304	12.2	24	6	5.4
2020420305	17.2	34.5	6	7.7



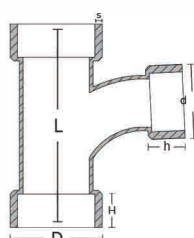
TEE 87.5
With Access $\beta=87.5$

CODE NO.	D	L	S	H	HC	DC
2020520302	4	15.3	4	4	2.2	7.4
2020520303	6.4	19	4	4.5	2.2	7.4
2020520304	12.2	24	6	5.3	2.6	10.8
2020520305	17.2	34.5	6	7.7	2.6	10.8



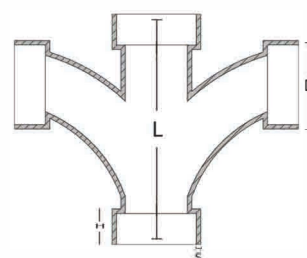
TEE 87.5
Reducer $\beta=87.5$

CODE NO.	D	d	L	S	h	H
2020520307	8.5	6.8	16.6	4	4.5	4
2020520308	12.2	7	20	5	4	5
2020520309	12	8.6	19	5	4.2	5.5
2020520310	17.1	12.2	28.7	5.55	7.7	



DOUBLE SANTIAR 87.5
Reducer $\beta=87.5$

CODE NO.	D	L	S	S
2021120308	8.4	18.7	4.5	5
2021120309	12	24.5	5	5.3





Chemical Resistance G u i d e

Chemical	Formula	Conc.	Temp.	uPVC	PP	Chemical	Formula	Conc.	Temp.	uPVC	PP
		(%)	(°C)	-	-			(%)	(°C)	-	-
ACETALDEHYDE	CH ₃ CHO	100	25	3	2	AMMONIA	NH ₃	deb	25	1	1
		-	60	3	-	- AQUEOUS SOLUTION		-	60	2	-
		-	100	-	-			-	100	-	-
- AQUEOUS SOLUTION		40	25	3	1			sat	25	1	1
		-	60	3	2			-	60	2	-
		-	100	-	-			-	100	-	-
ACETIC ACID	CH ₃ COOH	≤25	25	1	1	- DRY GAS		100	25	1	1
		-	60	2	1			-	60	1	1
		-	100	-	1			-	100	-	-
		30	25	1	1	- LIQUID		100	25	2	1
		-	60	2	1			-	60	3	1
		-	100	-	1			-	100	-	-
		60	25	1	1	AMMONIUM	CH ₃ COONH ₄	sat	25	-	1
		-	60	2	1	- ACETATE		-	60	2	1
		-	100	-	2			-	100	-	-
		80	25	1	1	- CARBONATE	(NH ₄) ₂ CO ₃	all	25	1	1
		-	60	2	3			-	60	2	1
		-	100	-	3			-	100	-	-
- GLACIAL		100	25	2	1	- CHLORIDE	NH ₄ Cl	sat	25	1	1
		-	60	3	2			-	60	1	1
		-	100	-	3			-	100	-	2
ACETIC ANHYDRIDE	(CH ₃ CO) ₂ O	100	25	3	1	- FLUORIDE	NH ₄ F	25	25	1	1
		-	60	3	2			-	60	2	1
		-	100	-	3			-	100	-	-
ACETONE	CH ₃ COCH ₃	10	25	3	1	- HYDROXIDE	NH ₄ OH	28	25	-	1
		-	60	3	3			-	60	2	1
		-	100	-	3			-	100	-	-
		100	25	3	1	- NITRATE	NH ₄ NO ₃	sat	25	1	1
		-	60	3	3			-	60	1	1
		-	100	-	3			-	100	-	1
ACETOPHENONE	CH ₃ COC ₆ H ₅	nd	25	-	1	- PHOSPHATE DIBASIC	NH ₄ (HPO ₄) ₂	all	25	1	1
		-	60	-	3			-	60	1	1
		-	100	-	-			-	100	-	-
ACRYLONITRILE	CH ₂ CHCN	technically pure	25	-	1	- PHOSPHATE META	(NH ₄) ₄ P ₄ O ₁₂	all	25	1	1
		-	60	3	1			-	60	1	1
		-	100	-	-			-	100	-	-
ADIPIC ACID	(CH ₂ CH ₂ CO ₂ H) ₂	sat.	25	1	1	- PHOSPHATE TRI	(NH ₄) ₂ HPO ₄	all	25	1	1
- AQUEOUS SOLUTION		-	60	2	1			-	60	1	1
		-	100	-	-			-	100	-	-
ALLYL ALCOHOL	CH ₂ CHCH ₂ OH	96	25	2	1	- PERSULPHATE	(NH ₄) ₂ S ₂ O ₈	all	25	1	1
		-	60	3	1			-	60	1	-
		-	100	-	1			-	100	-	-
ALUM	Al ₂ (SO ₄) ₃ .K ₂ SO ₄ .nH ₂ O	dil	25	1	1	- SULPHIDE	(NH ₄) ₂ S	deb	25	1	1
- AQUEOUS SOLUTION		-	60	2	1			-	60	2	1
		-	100	-	-			-	100	-	-
	Al ₂ (SO ₄) ₃ .K ₂ SO ₄ .nH ₂ O	sat	25	-	1			sat	25	1	1
		-	60	2	1			-	60	1	1
		-	100	-	-			-	100	-	-
ALUMINIUM	AlCl ₃	all	25	1	-	- SULPHYDRATE	NH ₄ OH.SO ₄	dil	25	1	1
- CHLORIDE		-	60	1	-			-	60	2	1
		-	100	-	-			-	100	-	-
- FLUORIDE	AlF ₃	100	25	1	-			sat	25	1	1
		-	60	1	-			-	60	1	1
		-	100	-	-			-	100	-	-
- HYDROXIDE	Al(OH) ₃	all	25	1	-	AMYLACETATE	CH ₃ CO ₂ CH ₂ (CH ₂) ₃ CH ₃	100	25	3	2
		-	60	1	-			-	60	3	-
		-	100	-	-			-	100	-	-
- NITRATE	Al(NO ₂) ₃	nd	25	1	-	AMYLALCOHOL	CH ₃ (CH ₂) ₃ CH ₂ OH	nd	25	1	1
		-	60	1	-			-	60	2	1
		-	100	-	-			-	100	-	1
- SULPHATE	Al(SO ₄) ₃	deb	25	1	1	ANILINE	C	H ₅ NH ₂	25	3	1
		-	60	1	1		6	-	-	-	-
		-	100	-	-			-	60	3	1
		sat	25	1	1			-	100	-	-
		-	60	1	1	- CHLORHYDRATE	C	H ₅ NH ₂ HCl	25	2	2
		-	100	-	2		6	-	-	-	-
									60	3	2
									100	-	3

Class 1: High Resistance Class 2: Limited Resistance Class 3: No Resistance.

CHEMICAL RESISTANCE GUIDE

Chemical	Formula	Conc.	Temp.	uPVC	PP	Chemical	Formula	Conc.	Temp.	uPVC	PP
		(%)	(°C)	-	-			(%)	(°C)	-	-
CARBON	CO ₂	-	-	25	1	CHLOROSULPHONIC	ClHSO ₃	-	100	25	3
- DIOXIDE		-	-	60	1	ACID		-	-	60	3
AQUEOUS SOLUTION		-	-	100	-			-	-	100	-
- GAS		-	100	25	1	CHROME ALUM	KCr(SO ₄) ₂	-	nd	25	1
		-	-	60	1			-	-	60	1
		-	-	100	-			-	-	100	-
- DISULPHIDE	CS ₂	-	100	25	2	CHROMIC ACID	CrO ₃ +H ₂ O	-	10	25	2
		-	-	60	-			-	-	60	3
		-	-	100	-			-	-	100	-
- MONOXIDE	CO	-	100	25	1			-	30	25	2
		-	-	60	1			-	-	60	3
		-	-	100	-			-	-	100	-
- TETRACHLORIDE	CCl ₄	-	100	25	2			-	50	25	2
		-	-	60	3			-	-	60	3
		-	-	100	-			-	-	100	-
CARBONIC ACID	H ₂ CO ₃	-	sat	25	-	CHROMIC SOLUTION	CrO ₃ +H ₂ O+H ₂ SO ₄	-	5015/35/	25	3
- AQUEOUS SOLUTION		-	-	60	-			-	-	60	3
		-	-	100	-			-	-	100	-
- DRY		-	100	25	-	CITRIC ACID	C	H ₄ (OH)(CO ₂ H)	50	25	1
		-	-	60	-	3	3	-	-	-	-
		-	-	100	-	AQ. SOL. min		-	-	60	1
- WET		-	all	25	-			-	-	100	-
		-	-	60	-	COPPER	CuCl ₂	-	sat	25	1
		-	-	100	-	- CHLORIDE		-	-	60	1
CARBON OIL		-	comm	25	-			-	-	100	-
		-	-	60	-	- CYANIDE	CuCN ₂	-	all	25	-
		-	-	100	-			-	-	60	-
CHLORAMINE		-	dil	25	1			-	-	100	-
		-	-	60	-	- FLUORIDE	CuF ₂	-	all	25	1
		-	-	100	-			-	-	60	1
CHLORIC ACID	HClO ₃	-	20	25	1			-	-	100	-
		-	-	60	3	- NITRATE	Cu(NO ₃) ₂	-	nd	25	1
		-	-	100	-			-	-	60	1
CHLORINE	Cl ₂	-	sat	25	-			-	-	100	-
		-	-	60	-	- SULPHATE	CuSO ₄	-	dil	25	1
		-	-	100	-			-	-	60	1
- DRY GAS		-	10	25	-			-	-	100	-
		-	-	60	-			-	sat	25	1
		-	-	100	-			-	-	60	1
		-	100	25	-			-	-	100	-
		-	-	60	-	COTTONSEED OIL		-	comm	25	-
		-	-	100	-			-	-	60	-
- WET GAS		-	5g/m ³	25	-			-	-	100	-
		-	-	60	-	CRESOL	CH ₃ C ₆ H ₄ OH	-	E90	25	1
		-	-	100	-			-	-	60	-
		-	10g/m ³	25	-			-	-	100	-
		-	-	60	-			-	>90	25	-
		-	-	100	-			-	-	60	-
		-	66g/m ³	25	-			-	-	100	-
		-	-	60	-	CRESYLIC ACID	CH ₃ C ₆ H ₄ COOH	-	50	25	-
		-	-	100	-			-	-	60	-
- LIQUID		-	100	25	3			-	-	100	-
		-	-	60	-	CYCLOHEXANE	C ₆ H ₁₂	-	all	25	1
		-	-	100	-			-	-	60	-
CHLOROACETIC ACID	ClCH ₂ COH	-	85	25	2			-	-	100	-
		-	-	60	3	CYCLOHEXANONE	C ₆ H ₁₀ O	-	all	25	1
		-	-	100	-			-	-	60	-
		-	100	25	3			-	-	100	-
		-	-	60	3	DECAHYDRONAPHTALENE	C ₁₀ H ₁₈	-	nd	25	1
		-	-	100	-			-	-	60	2
CHLOROBENZENE	C	H ₅ Cl	all	25	-			-	-	100	-
	6	-	-	-	-	DEMINEALIZED WATER		-	100	25	1
		-	-	60	-			-	-	60	1
		-	-	100	-			-	-	100	-
CHLOROFORM	CHCl ₃	-	all	25	2	DEXTRINE	C	H ₁₂ OCH ₂ O	nd	25	1
		-	-	60	-		6	-	-	-	-
		-	-	100	-			-	-	60	1
		-	-	100	-			-	-	100	-

Class 1: High Resistance Class 2: Limited Resistance Class 3: No Resistance.

Chemical	Formula	Conc.	Temp.	uPVC	PP	Chemical	Formula	Conc.	Temp.	uPVC	PP
		(%)	(°C)						(°C)		
ANTIMONY	SbCl ₃	100	25	1	1	BROMINE	Br ₂	(%)	25	3	3
- TRICHLORIDE			60	1	1	- LIQUID		100	60	3	3
			100	-	-			-	100	-	3
ANTHRAQUINONE		suspension	25	1	1	- VAPOURS		-	25	2	3
SULPHONIC ACID			60	2	1			low	60	-	3
			100	-	-			-	100	-	-
AQUA REGIA	HC+HNO ₃	100	25	2	3	BUTADIENE	C ₄ H ₆	-	25	1	1
			60	2	3			100	60	1	3
			100	-	3			-	100	-	-
ARSENIC ACID	H ₃ AsO ₄	deb	25	1	1	BUTANEDIOL	CH ₃ CH ₂ CHOHCH ₂ OH	-	25	1	1
			60	2	1	AQUEOUS		10	60	3	-
			100	-	-			-	100	-	-
		80	25	1	1			concentrated	-	25	2
			60	2	1			-	60	3	2
			100	-	2			-	100	-	-
BARIUM		all	25	1	1	BUTANE	C	H10	-	25	1
- CARBONATE	BaCO ₃		60	1	1			4	10	-	-
			100	-	-			-	-	60	1
- CHLORIDE	BaCl ₂	10	25	1	1	GAS		-	-	-	100
			60	1	1			-	-	-	-
			100	-	-	BUTYL		CH ₃ CO ₂ CH ₂ CH ₂ CH ₂ CH ₃	-	100	25
- HYDROXIDE	Ba(OH) ₂	all	25	1	1	- ACETATE		-	-	60	3
			60	1	1			-	-	100	-
			100	-	-	- ALCOHOL		C	-	25	1
- SULPHATE	BaSO ₄	nb	25	1	1			4	H ₉ OH	-	-
			60	1	1			-	-	60	1
			100	-	-			-	-	100	-
- SULPHIDE	BaS	sat	25	1	1	- PHENOL		C	-	100	25
			60	1	-			4	H ₉ C ₆ H ₄ OH	-	-
			100	-	-			-	-	60	3
BEER		comm	25	1	-			-	-	100	-
			60	1	-	BUTYLENE GLYCOL		C ₄ H ₆ (OH) ₂	-	100	25
			100	-	-			-	-	60	1
BENZALDEHYDE	C ₆ H ₅ CHO	nd	25	3	3			-	-	100	-
			60	3	3	BUTYRIC ACID		C ₂ H ₅ CH ₂ COOH	-	20	25
			100	-	-			-	-	60	2
BENZENE	C ₆ H ₆	100	25	3	3			-	-	100	-
			60	3	3			-	concentrated	25	3
			100	-	3			-	-	60	3
- LIGROIN		2080/	25	3	3			-	-	100	-
			60	3	3	CALCIUM		Ca(HSO ₃) ₂	-	nd	25
			100	-	-	- BISULPHITE		-	-	60	1
- MONOCHLORINE	C ₆ H ₅ Cl	technically pure	25	3	1			-	-	100	-
			60	-	-	- CARBONATE		CaCO ₃	-	all	25
			100	-	-			-	-	60	1
BENZOIC ACID	C ₆ H ₅ COOH	sat	25	1	1			-	-	100	-
			60	2	1	- CHLORATE		CaHCl	-	nd	25
			100	-	3			-	-	60	1
BENZYL ALCOHOL	C ₆ H ₅ CH ₂ OH	100	25	1	1			-	-	100	-
			60	2	2	- CHLORIDE		CaCl ₂	-	all	25
			100	-	-			-	-	60	1
BLEACHING LYE	NaOCl+NaCl	12.50%	25	1	2			-	-	100	-
		Cl	60	2	-	- HYDROXIDE		Ca(OH) ₂	-	all	25
			100	-	-			-	-	60	-
BORIC ACID	H ₃ BO ₃	deb	25	1	1			-	-	100	-
			60	2	1	- HYPOCHLORITE		Ca(OCl) ₂	-	sat	25
			100	-	1			-	-	60	1
		sat	25	1	1			-	-	100	-
			60	2	1	- NITRATE		Ca(NO ₃) ₂	-	50	25
			100	-	1			-	-	60	-
BRINE		comm	25	1	1			-	-	100	-
			60	1	-	- SULPHATE		CaSO ₄	-	nd	25
			100	-	-			-	-	60	1
BROMIC ACID	HBrO ₃	10	25	1	-			-	-	100	-
			60	1	-	- SULPHIDE		CaS	-	sat	25
			100	1	-			-	-	60	2
								-	-	100	-

Class 1: High Resistance Class 2: Limited Resistance Class 3: No Resistance.

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Chemical	Formula	Conc.	Temp.	uPVC	PP	Chemical	Formula	Conc.	Temp.	uPVC	PP
		(%)	(°C)					(%)	(°C)		
HEXANE	C ₆ H ₁₄	100	25	1	1	LACTIC ACID	CH ₃ CHOHCOOH	≤28	25	1	1
			60	2	2				60	2	1
			100						100		1
HYDROBROMIC ACID	HBr	≤10	25	1	1	LANOLINE		nd	25		1
			60	2	1				60	2	2
			100		3				100		
		48	25	1	1	LEAD ACETATE	Pb(CH ₃ COO) ₂	sat	25	1	1
			60	2	1				60	1	2
			100		3				100		2
HYDROCHLORIC ACID	HCl	≤25	25	1	1	LINSEED OIL		comm	25	1	1
			60	2	1				60	2	1
			100		1				100		
		≤37	25	1	1	LUBRICATING OILS		comm	25	1	1
			60	1	1				60	1	2
			100		2				100		
HYDROCYANIC ACID	HCN	deb	25	1	1	MAGNESIUM	MgCO ₃	all	25	1	1
			60	1	1	- CARBONATE			60	1	1
			100						100		
HYDROFLUORIC ACID	HF	10	25	1	1	- CHLORIDE	MgCl ₂	sat	25	1	1
			60	2	1				60	1	1
			100		3				100		2
		60	25	2	1	- HYDROXIDE	Mg(OH) ₂	all	25	1	1
			60	3	3				60	1	1
			100		3				100		
HYDROGEN	H ₂	all	25			- NITRATE	MgNO ₃	nd	25	1	1
			60						60	1	1
			100						100		
HYDROGEN	H ₂ O ₂	30	25	1	1	- SULPHATE	MgSO ₄	dil	25	1	1
- PEROXIDE			60	1	1				60	1	1
			100						100		
		50	25	1	1			sat	25	1	1
			60	1	2				60	1	1
			100						100		
		90	25	1	1	MALEIC ACID	COOHCHCHCOOH	nd	25	1	1
			60	1	2				60	1	1
			100						100		1
- SULPHIDE DRY		sat	25	1	1	MALIC ACID	CH ₂ CHOH(COOH) ₂	nd	25	1	1
			60	2	1				60		1
			100						100		
- SULPHIDE WET		sat	25	1	1	MERCURIC	HgCl ₂	sat	25	1	1
			60	2	1	- CHLORIDE			60	1	1
			100						100		
HYDROSULPHITE		≤10	25	1	1	- CYANIDE	HgCN ₂	all	25	1	1
			60	2	1				60	1	1
			100						100		
HYDROXYLAMINE	(H ₂ NOH) ₂ H ₂ SO ₄	12	25	1	1	MERCUROUS NITRATE	HgNO ₃	nd	25	1	1
SULPHATE			60	1	1				60	1	1
			100						100		
ILLUMINATING GAS		100	25	1	1	MERCURY	Hg	100	25	1	1
			60						60	2	1
			100						100		
IODINE	I ₂	3	25	2	1	METHYL	CH ₃ COOCH ₃	100	25		1
- DRY AND WET			60	3		- ACETATE			60		1
			100						100		
- TINCTURE		>3	25	2	1	- ALCOHOL	CH ₃ OH	nd	25	1	1
			60	3	3				60	1	2
			100						100		2
ISOCTANE	C ₈ H ₁₈	100	25	1	2	- BROMIDE	CH ₃ Br	100	25	3	3
			60		3				60		3
			100						100		
ISOPROPYL	(CH ₃) ₂ CHOCH(CH ₃) ₂	100	25	2	2	- CHLORIDE	CH ₃ Cl	100	25	3	3
- ETHER			60	3	3				60	3	3
			100						100		3
- ALCOHOL	(CH ₃) ₂ CHOH	100	25		1	- ETHYLKETONE	CH ₃ COCH ₂ CH ₃	all	25	3	1
			60	2	1				60	3	2
			100						100		

Class 1: High Resistance Class 2: Limited Resistance Class 3: No Resistance.

Chemical	Formula	Conc.	Temp.	uPVC	PP	Chemical	Formula	Conc.	Temp.	uPVC	PP
		(%)	(°C)					(%)	(°C)		
METHYLAMINE	CH ₃ NH ₂	32	25	2	1	OLEUM		nd	25	3	3
			60	3					60	3	3
			100						100		
METHYLENE	CH ₂ Cl ₂	100	25	3	3	- VAPOURS		low	25	3	3
CHLORIDE			60	3	3				60	3	3
			100		3				100		
METHYL	CH ₃ COOSO ₄	50	25	1	2			high	25	3	3
SULPHURIC ACID			60	2	2				60	3	3
			100		3				100		
		100	25	1	3	OLIVE OIL		comm	25		1
			60	2	3				60	2	1
			100		3				100		
MILK		100	25	1	1	OXALIC ACID	HO ₂ CCO ₂ H	10	25	1	1
			60	1	1				60	2	2
			100		1				100		2
MINERAL ACID/DOULOUS		nd	25	1	1			sat	25	1	1
WATER			60	1	1				60	1	2
			100		1				100		3
MOLASSES		comm	25	1	1	OXYGEN	O ₂	all	25	1	3
			60	2	1				60	1	3
			100		2				100		
NAPHTA		100	25	2	1	OZONE	O ₃	nd	25	1	3
			60	3	3				60	2	3
			100						100		
NAPHTALINE		100	25	1	3	PALMITIC ACID	CH ₃ (CH ₂) ₁₄ COOH	10	25	1	
			60		3				60	1	3
			100		3				100		
NICKEL	NiCl ₃	all	25	1	1			70	25	1	
- CHLORIDE			60	1	1				60	1	3
			100		1				100		
- NITRATE	Ni(NO ₃) ₂	nd	25	1	1	PARAFFIN		nd	25		
			60	1	1				60	2	1
			100		2				100		
- SULPHATE	NiSO ₄	dil	25	1	1	- EMULSION		comm	25	1	3
			60	1	1				60	1	3
			100						100		
		sat	25	1	1	- OIL		nd	25	1	1
			60	1	1				60	1	3
			100						100		
NITRIC ACID	HNO ₃	anhydrous	25	3	3	PERCHLORIC ACID	HClO ₄	100	25	1	1
			60	3	3				60	2	1
			100		3				100		
		20	25	1	1			70	25	1	1
			60	2	2				60	2	
			100		3				100		
		40	25	1	2	PETROL		100	25	1	1
			60	1	3	- REFINED			60		3
			100		3				100		
		60	25	1	2	- UNREFINED		100	25	1	1
			60	2	3				60	1	3
			100		3				100		
		98	25	3	3	PHENOL	C ₆ H ₅ OH	1	25	1	1
			60	3	3	- AQUEOUS SOLUTION			60		1
			100		3				100		3
NITROBENZENE	C ₆ H ₅ NO ₂	all	25	3	1			≤90	25	2	1
			60	3	2				60	3	3
			100						100		3
OLEIC ACID	C ₁₈ H ₃₃ O ₂	comm	25	1	1	PHENYL HYDRAZINE	C ₆ H ₅ NHNH ₂	all	25	3	2
			60	1	2				60	3	2
			100						100		
						- CHLORHYDRATE	C	H ₅ NHNH ₃ Cl	sat 25	1	1
							6				
									60		3
									100		

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Chemical	Formula	Conc.	Temp.	uPVC	PP	Chemical	Formula	Conc.	Temp.	uPVC	PP
		(%)	(°C)					(%)	(°C)		
PHOSPHORIC	H3PO4	≤25	25	1	1	- PERBORATE	KBO3	-	all	25	1
- ACID			60	2	1			-	60	1	
			100		1			-	100		
		≤50	25	1	1	- PERMANGANATE	KMnO4	-	10	25	1
			60	1	1			-	60	1	2
			100		1			-	100		
		≤85	25	1	1	- PERSULPHATE	K S2O8	nd	25	1	1
			60	1	1		2	-			
			100		1			-	60	2	1
- ANHYDRIDE	P2O5	nd	25	1	1			-	100		
			60	2	1	- SULPHATE	K SO4	sat	25		1
			100				2	-			
PHOSPHORUS	PCl3	100	25	3	1			-	60	1	1
TRICHLORIDE			60		3			-	100		
			100			PROPANE	C H8	100	25	1	1
PHOTOGRAPHIC		comm	25	1			3	-			
- DEVELOPER			60	1		- GAS		-	60		
			100					-	100		
- EMULSION		comm	25	1		- LIQUID		-	100	25	1
			60	1				-	60		2
			100					-	100		
PHTHALIC ACID	C H4(CO2H)2	50	25		1	PROPYL ALCOHOL	C H7OH	100	25	1	1
	6		60	3	1		3	-			
			100					-	60	2	1
PICRIC ACID	HOC6H2(NO2)3	1	25	1	1			-	100		
			60	1		PYRIDINE	CH(CHCH)2N	nd	25	3	1
			100					-	60	3	2
		>1	25	3	3			-	100		3
			60	3	3	RAIN WATER		100	25	1	1
			100					-	60	1	1
POTASSIUM	K2CrO7	40	25	1	1			-	100		1
- BICHROMATE			60	1		SEA WATER		100	25	1	1
			100					-	60	1	1
- BORATE	K3BO3	sat	25	1	1			-	100		1
			60	2	1	SILICIC ACID	H2SiO3	all	25	1	1
			100					-	60	1	1
- BROMATE	KBrO3	nd	25	1	1			-	100		
			60	2	1	SILICONE OIL		nd	25	1	1
			100		2			-	60	3	2
- BROMIDE	KBr	sat	25	1	1			-	100		
			60	1	1	SILVER	AgCN	all	25	1	1
			100			- CYANIDE		-	60	1	1
- CARBONATE	K2CO3	sat	25	1	1			-	100		
			60	1		- NITRATE	AgNO9	nd	25	1	1
			100					-	60	2	1
- CHLORIDE	KCl	sat	25	1	1			-	100		1
			60	1	1	- PLATING SOLUTION		comm	25	1	1
			100		2			-	60	1	
- CHROMATE	KCrO4	40	25	1	1			-	100		
			60	1	1	SOAP		high	25	1	1
			100			- AQUEOUS SOLUTION		-	60	2	1
- CYANIDE	KCN	sat	25	1	1			-	100		
			60	1	1	SODIC LYE		£60	25	1	
			100					-	60	1	
- FERROCYANIDE	K4Fe(CN)6.3H2O	100	25	1	1			-	100		
			60	1	1	SODIUM	CH3COONa	100	25	1	1
			100		2	- ACETATE		-	60	1	1
- FLUORIDE	KF	sat	25	1	1			-	100		1
			60		1	- BICARBONATE	NaHCO3	nd	25	1	1
			100					-	60	1	1
- HYDROXIDE	KOH	≤60	25	1	1			-	100		1
			60	2	1	- BISULPHITE	NaHSO3	100	25	1	1
			100		1			-	60	1	1
- NITRATE	KNO3	sat	25	1	1			-	100		1
			60	1	1	- BROMIDE	NaBr	sat	25	1	1
			100					-	60	1	1
								-	100		
						- CARBONATE	Na2CO3	sat	25	1	1
									60	1	2
									100		2

Class 1: High Resistance Class 2: Limited Resistance Class 3: No Resistance.

Chemical	Formula	Conc.	Temp.	uPVC	PP	Chemical	Formula	Conc.	Temp.	uPVC	PP	
		(%)	(°C)					(%)	(°C)			
- CHLORATE	NaClO3	nd	25	1	1	SULPHUR	S	100	25	1	1	
			60	2					60	2	1	
			100						100			
- CHLORIDE	NaCl	dil	25	1	1	- DIOXIDE AQUEOUS	SO2	sat	25	1	1	
			60	2	1				60	2		
			100						100			
		sat	25	1	1	- DIOXIDE DRY		all	25	1	1	
			60	1	1				60	1	1	
			100		3				100		3	
- CYANIDE	NaCN	all	25	1	1	- DIOXIDE LIQUID		100	25	2		
			60	1	1				60	3		
			100						100			
- FERROCYNIDE	Na4Fe(CN)6	sat	25	1		- TRIOXIDE	SO3	100	25	2	3	
			60	1					60	2	3	
			100						100			
- FLUORIDE	NaF	all	25	1		SULPHURIC ACID	H2SO4	≤10	25	1	1	
			60	1					60	1	1	
			100						100		1	
- HYDROXIDE	NaOH	60	25	1	1			≤75	25	1	1	
			60	1	1				60	2	2	
			100		1				100		2	
- HYPOCHLORITE	NaOCl	deb	25	1	1			≤90	25	1	1	
			60	2	2				60	2	2	
			100						100		3	
- HYPOSULPHITE	Na2S3O3	nd	25	1	1			≤96	25	2	3	
			60	1					60	3	3	
			100						100		3	
- NITRATE	NaNO3	nd	25	1	1	- FUMING		H2SO4+HNO3	25	2	3	
			60	1	1			80/20	60	3	3	
			100						100		3	
- PERBORATE	NaBO3H2O	all	25	1	1	- NITRIC AQUEOUS SOLUTION	H2SO4+HNO3+H2O	483/49/	25	1	3	
			60	1					60	2	3	
			100						100		3	
- PHOSPHATE di	Na2HPO4	all	25	1	1			500/50/	25	2	3	
			60	1	1				60	3	3	
			100		1				100		3	
- PHOSPHATE tri	Na3PO4	all	25	1	1			1070/20/	25	1	2	
			60	1	1				60	1	2	
			100		1				100			
- SULPHATE	Na2SO4	dil	25	1	1	TALLOW EMULSION		comm	25	1	1	
			60	1	1				60	1	2	
			100						100			
		sat	25	1	1	TANNIC ACID	C14H10O9	10	25	1		
			60	1	1				60	1		
			100						100			
- SULPHIDE	Na2S	dil	25	1	1	TARTARIC ACID	HOOC(CHOH)2COOH	all	25	1	1	
			60	2	1				60	2	1	
			100						100			
		sat	25	1	1	TETRACHLORO	CHCl2CHCl2	nd	25	3	2	
			60	1	1	- ETHANE			60	3	3	
			100						100			
- SULPHITE	NaSO3	sat	25	1	1	- ETHYLENE	CCl2CCl2	nd	25	3	2	
			60	1	1				60	3	3	
			100						100			
STANNIC CHLORIDE	SnCl4	sat	25	1	1	TETRAETHYLLEAD	Pb(C2H5)4	100	25	1	1	
			60	1	1				60	2		
			100						100			
STANNOUS CHLORIDE	SnCl2	dil	25	1	1	TETRAHYDROFURAN	C4H8O	all	25	3	2	
			60	1	1				60	3	3	
			100						100		3	
STEARIC ACID	CH3(CH2)16CO2H	100	25	1	2	THIONYL CHLORIDE	SOCl3		25	3	3	
			60	1	2				60			
			100						100			
SUGAR SYRUP		high	25	1	1	THIOPHENE	C	H4S	100	25	3	2
			60	2			4					
			100						60	3	3	
									100			

Class 1: High Resistance Class 2: Limited Resistance Class 3: No Resistance.

CHEMICAL RESISTANCE GUIDE

Chemical	Formula	Conc.	Temp.	uPVC	PP	Chemical	Formula	Conc.	Temp.	uPVC	PP
		(%)	(°C)					(%)	(°C)		
DIBUTYLPHTHALATE	C ₆ H ₄ (CO ₂ C ₄ H ₉) ₂	100	25	3	3	FERROUS	FeCl ₂	sat	25	1	1
			60	3	3	- CHLORIDE			60	1	
			100						100		
DICHLOROACETIC ACID	Cl ₂ CHCOOH	100	25	1	1	- SULPHATE	FeSO ₄	nd	25	1	1
			60	2	2				60	1	
			100						100		
DICHLOROETHANE	CH ₂ ClCH ₂ Cl	100	25	3	1	FERTILIZER		≤10	25	1	1
			60	3					60	1	1
			100						100		
DICHLOROETHYLENE	ClCH ₂ Cl	100	25	3	2			sat	25	1	1
			60	3					60	1	1
			100						100		
DIETHYL ETHER	C ₂ H ₅ OC ₂ H ₅	100	25	3	1	FLUORINE GAS - DRY F ₂		100	25	2	3
			60	3	1				60	3	3
			100						100		
DIGLYCOLIC ACID	(CH ₂) ₂ O(CO ₂ H) ₂	18	25	1	1	FLUROSILICIC ACID	H ₂ SiF ₆	32	25	1	1
			60	2	1				60	1	1
			100						100		
DIMETHYLAMINE	(CH ₃) ₂ NH	100	25	2	1	FORMALDEHYDE	HCOH		25	1	1
			60	3	2				60	2	1
			100						100		
DIOCTYLPHTHALATE		all	25	3	2	FORMIC ACID	HCOOH	50	25	1	1
			60	3	2				60	2	1
			100						100		
DISTILLED WATER		100	25	1	1			100	25	1	1
			60	1	1				60	3	1
			100						100		
DRINKING WATER		100	25	1	1	FRUIT PULP AND JUICE		comm	25	1	1
			60	1	1				60	1	1
			100						100		
ETHERS		all	25	3	3	FUEL OIL		100	25	1	1
			60	3	3				60	1	2
			100						100		
ETHYL	CH ₃ CO ₂ C ₂ H ₅	100	25	3	2			comm	25	1	1
- ACETATE			60	3	3				60	1	2
			100						100		
- ALCOHOL	CH ₃ CH ₂ OH	nd	25	1	1	FURFUROLE ALCOHOL	C ₅ H ₃ OCH ₂ OH	nd	25	3	2
			60	2	1				60	3	2
			100						100		
- CHLORIDE	CH ₃ CH ₂ Cl	all	25	3	3	GAS EXHAUST		all	25	1	
			60	3	3	- ACID			60	1	
			100						100		
- ETHER	CH ₃ CH ₂ OCH ₂ CH ₃	all	25	3	3	- WITH NITROUS VAPOURS		traces	25	1	1
			60	3	3				60	1	1
			100						100		
ETHYLENE	ClCH ₂ CH ₂ OH	100	25	3		GAS PHOSGENE	ClCOCl	100	25	1	2
- CHLOROHYDRIN			60	3					60	2	2
			100						100		
- GLYCOL	HOCH ₂ CH ₂ OH	comm	25	1	1	GELATINE		100	25	1	1
			60	2	1				60	1	1
			100						100		
FATTY	ACIDS	nd	25	1		GLUCOSE	C ₆ H ₁₂ O ₆	all	25	1	1
			60	1					60	2	1
			100						100		
FERRIC	FeCl ₃	10	25	1	1	GLYCERINE	HOCH ₂ CHOHCH ₂ OH	all	25	1	1
- CHLORIDE			60	2	1	AQ.SOL			60	1	1
			100						100		
		sat	25	1	1	GLYCOGLUE		10	25	1	1
			60	1	1	AQUEOUS			60	1	1
			100						100		
- NITRATE	Fe(NO ₃) ₃	nd	25	1		GLYCOLIC ACID	HOCH ₂ COOH	37	25	1	1
			60	1					60	1	
			100						100		
- SULPHATE	Fe(SO ₄) ₃	nd	25	1	1	HEPTANE	C ₇ H ₁₆	100	25	1	3
			60	1					60	2	3
			100						100		

Class 1: High Resistance Class 2: Limited Resistance Class 3: No Resistance.

<i>Chemical</i>	<i>Formula</i>	<i>Conc.</i>	<i>Temp.</i>	<i>uPVC</i>	<i>PP</i>
		(%)	(°C)		
TOLUENE	C ₆ H ₅ CH ₃	100	25	3	2
			60	3	3
			100		3
TRANSFORMER OIL		nd	25	1	1
			60	2	2
			100		
TRICHLOROACETIC ACID	CCl ₃ COOH	≤50	25	1	1
			60	3	1
			100		
TRICHLOROETHYLENE	Cl ₂ CCHCl	100	25	3	3
			60	3	3
			100		
TRIETHANOLAMINE	N(CH ₂ CH ₂ OH) ₂	100	25	2	1
			60	3	
			100		
TURPENTINE		100	25	2	3
			60	2	3
			100		
UREA	CO(NH ₂) ₂	≥10	25	1	1
AQUEOUS SOLUTION			60	2	1
			100		
		33	25	1	1
			60	2	1
			100		
URINE		nd	25	1	1
			60	2	1
			100		
URIC ACID	C ₅ H ₄ N ₄ O ₃	10	25	1	
			60	2	
			100		
VASELINE OIL		100	25	1	1
			60	3	2
			100		
VINYL ACETATE	CH ₃ CO ₂ CHCH ₂	100	25	3	
			60	3	
			100		
WHISKY		comm	25	1	1
			60	1	
			100		
WINES		comm	25	1	1
			60	1	1
			100	1	
WINE VINEGAR		comm	25	1	1
			60	2	1
			100		
ZINC - CHLORIDE	ZnCl ₂	dil	25	1	1
			60	1	1
			100		
		sat	25	1	1
			60	1	1
			100		2
- CHROMATE	ZnCrO ₄	nd	25	1	1
			60	1	1
			100		
- CYANIDE	Zn(CN) ₂	all	25	1	
			60	1	
			100		
- NITRATE	Zn(NO ₃) ₂	nd	25	1	1
			60	1	1
			100		
- SULPHATE	ZnSO ₄	dil	25	1	1
			60	1	1
			100		
		sat	25	1	1
			60	1	1
			100		

Class 1: High Resistance Class 2: Limited Resistance Class 3: No Resistance.



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