



PRINCE[®]
PIPING SYSTEMS



**CHEMICAL
RESISTANCE
CHART**



GREENFIT[®]

**PP-R Plumbing & Industrial
Piping Systems**



**INDIA'S LARGEST
SELLING PP-R**



GREENFIT®

**PP-R Plumbing & Industrial
Piping Systems**

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
Temp in °C	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
A																
Acetaldehyde	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-	-
Aqueous, 40%	C	N	-	-	-	-	-	-	R	R	R	C	N	-	-	-
Acetamide	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Acetic Acid, 10%	R	R	C	R	R	R	R	R	R	R	R	R	R	R	-	-
Acetic Acid, 20%	R	R	C	R	R	R	R	R	R	R	R	R	R	R	-	-
Acetic Acid, 25%	R	R	C	R	R	R	R	R	R	R	R	R	R	R	-	-
Acetic Acid, 30%	R	C	C	R	-	C	-	-	R	R	R	R	R	R	-	-
Acetic Acid, 60%	R	C	C	R	-	C	-	-	R	R	R	R	C	R	-	-
Acetic Acid, 80%	R	C	C	R	-	-	-	C	R	N	N	N	N	R	-	-
Acetic Acid, 85%	R	-	-	N	-	-	-	-	R	-	-	-	-	R	-	-
Acetic Acid Glacial, 100%	C	N	N	C	N	N	N	N	R	C	C	-	N	R	-	-
Acetic Acid, Hot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetic Acid, Vapor	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Acetic Anhydride	N	-	-	-	-	-	-	-	R	C	C	-	N	R	-	-
Acetone	N	-	-	N	-	-	-	-	R	R	R	-	-	-	-	-
Acetone 5%	N	-	-	N	-	-	-	-	R	R	R	-	-	-	-	-
Acetone, pure	N	N	N	N	N	N	N	N	C	C	C	-	-	-	-	-
Acetone, up to 5%	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-
Acetonitrile	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-
Acetopheneditin	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Acetophenone	-	-	-	-	-	-	-	-	R	-	N	-	-	R	-	-
Acetyl Acetone	N	-	-	N	-	-	-	-	-	-	-	-	-	-	-	-
Acetyl Bromide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetyl Chloride	N	-	-	N	-	-	-	-	R	-	-	-	-	-	-	-
Acetyl Nitrite	N	-	-	N	-	-	-	-	-	-	-	-	-	-	-	-
Acetyl-d I-Alanine	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Acetyl-d 1-Lencine-n	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Acetyl-d I-Meth ionine-n	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Acetyl-d 1-Tryptophan-n	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Acetylene Gas, 100%	N	-	-	N	-	-	-	-	R	-	-	-	-	R	-	-
Acetylene Tetrabromide	-	-	-	-	-	-	-	-	-	-	-	-	-	N	-	-
Acetylnitrile	-	-	N	N	N	-	-	-	-	R	R	-	-	-	-	-
Acetylsalicylic Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-
Acetylonitrile	N	-	-	N	-	-	-	-	C	-	-	-	-	R	-	-
Adipic Acid, Sat'd	-	R	R	C	R	-	-	-	-	R	R	R	R	R	R	-
Aero Lubriplate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alanine-dl	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Alcohols	R	-	-	R	-	-	-	-	R	-	-	-	-	-	-	-
Allyl Alcohol,96%	C	N	N	R	-	-	-	-	R	R	R	-	R	R	-	-
Allyl Chloride	N	-	-	N	-	-	-	-	-	-	-	-	-	-	-	-
Alolin	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Aluminum Acetate, Sat'd	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Aluminum Ammonium	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Aluminum Bromide	R	-	-	R	-	-	-	-	R	-	-	-	-	-	-	-
Aluminum Chloride, Sat'd	R	R	R	R	-	R	-	-	R	R	R	R	C	R	-	-
Aluminum Fluoride, Sat'd	R	-	R	R	-	-	-	-	R	-	-	-	-	R	-	-
Aluminum Hydroxide, Sat'd	R	-	R	R	-	-	-	-	R	-	-	-	-	R	-	-
Aluminum Nitrate Sat'd	R	-	R	R	-	-	-	-	R	-	-	-	-	R	-	-
Aluminum Oxalate	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-
Aluminum Oxide	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-
Aluminum Oxychloride	R	-	-	R	-	-	-	-	R	-	-	-	-	-	-	-
Aluminum Potassium Sulfate, Sat'd	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Aluminum Salts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum Sodium Sulfate	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-
Aluminum Sulfate, Sat'd	R	R	R	R	-	R	-	R	R	R	R	R	R	R	-	-
Alums, NH3-Cr-K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ambrex 33 (Mobil)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ambrex 830 (Mobil)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amino Acetic Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Aminobutric-a-dl Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Aminoisobutyric-2 Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Ammonia Anhydrous	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-
Ammonia Gas 1	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-	-
Ammonia Gas, Cold	R	R	R	-	-	-	-	-	R	R	R	-	-	-	-	-
Ammonia Liquid 2	-	N	R	-	-	-	-	R	-	-	-	-	R	-	-	-
Ammonium Acetate, Sat'd 1	R	C	R	-	-	-	-	R	R	R	R	R	R	-	-	-
Ammonium Benzoate	-	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Ammonium Bifluoride, Sat'd	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Ammonium Bisulfide	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Bromide Ammonium Carbonate, Sat'd	R	R	C	R	-	-	-	-	R	R	R	R	R	R	-	-
Ammonium Chloride, Sat'd	R	-	R	R	-	R	-	R	R	-	R	-	C	R	R	R
Ammonium Citrate	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Dichromate	R	-	-	R	-	-	-	-	-	-	-	-	-	C	-	-
Ammonium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Fluoride, 10%	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Ammonium Fluoride, 20%	R	-	C	R	-	R	-	-	R	-	R	-	-	-	-	-
Ammonium Fluoride, 25%	R	-	C	R	-	R	-	-	R	-	R	-	-	R	-	-
Ammonium Fluoro Silicate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Glycolate	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Ammonium Hydroxide	R	R	R	-	R	R	R	-	R	R	R	R	R	R	-	-
Ammonium 1	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-	-

In the table the figure stands for the below mentioned:

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PP-R IS AN IDEAL MATERIAL FOR HOT & COLD WATER PLUMBING SYSTEMS

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °C	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Ammonium Molybdate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Nitrate, Sat'd	R	-	R	R	-	R	-	R	R	-	R	-	R	R	-	-
Ammonium Nitrite	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Oxalate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Oxylate	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-
Ammonium Persulfate	R	-	R	R	-	-	-	-	R	-	-	-	-	R	-	-
Ammonium Persulfate, 10%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Phosphate, Dibasic	R	R	R	R	-	C	-	-	R	R	R	R	R	R	-	-
Ammonium Phosphate, Monobasic	R	R	R	R	-	-	-	-	R	R	R	R	R	R	-	-
Ammonium Phosphate	R	R	R	R	-	-	-	-	R	R	R	R	R	R	-	-
Ammonium Potassium	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Ammonium Sulfamate	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Sulfate	R	R	C	R	-	-	-	-	R	R	R	R	R	R	-	-
Ammonium Sulfide, Dilute	R	-	C	R	-	-	-	-	R	-	R	-	-	R	-	-
Ammonium Sulfocyanide fmmonium Tartarate	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Thiocyanate	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Ammonium Thioglycolate	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-
Amonia Acetate, Sat'd	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Amonia Gas 1	-	-	N	-	-	-	-	R	-	-	-	-	R	-	-	-
Amonia Liquid 3	-	-	N	-	-	-	-	R	-	-	-	-	R	-	-	-
Amyl Acetate 3	-	N	N	-	N	-	-	C	C	-	-	-	R	-	-	-
Amyl Alcohol, Pure	R	R	C	R	-	R	-	R	R	R	R	R	R	R	-	-
Amyl Borate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amyl Chloride 3	-	-	N	-	-	-	-	N	-	-	-	-	-	-	-	-
Amyl Chloronaphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amyl Naphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amyl Phthalate	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-
Ang-25 (Glycerol Ester)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aniline 3	-	N	N	-	N	-	N	C	-	-	-	-	R	-	-	-
Aniline Chlorohydrate	C	-	N	N	-	N	-	N	C	-	C	-	N	-	-	-
Aniline Dyes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aniline Hydrochloride, Aniline Sulphate	R	C	-	N	-	-	-	-	R	R	C	-	-	R	-	-
Animal Oil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthranilic Acid	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-
Anthraquinone 1	-	-	R	-	-	-	-	R	-	-	-	-	-	-	-	-
Anthraquinone Sulfonic	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Antimony Trichloride	R	R	R	R	-	-	-	-	R	R	R	-	-	R	-	-
Aqua Regia 1	C	C	C	C	C	C	C	C	N	N	N	N	N	-	-	-
Arachidic Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Argon, Dry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °C	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Temp in °F																
Aromatic Fuel, 50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aromatic Hydrocarbons	N	-	-	N	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic Acid, 80%	R	R	C	R	C	C	C	C	R	R	R	R	C	R	-	-
Arsenic Trioxide (Powder)	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-
Arylsulfonic Acid 1	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-
Ascorbic Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Askarel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asphalt 3	-	-	N	-	-	-	-	R	-	-	-	-	N	-	-	-
ASTM Oil, NO.1 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASTM Oil, NO.2 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASTM Oil, NO.3 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atropine Sulfate	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-
Aurex 903R (Mobile)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Automatic Transmission Automotive Brake Fluid	C	-	-	-	-	-	-	-	R	-	-	-	-	R	-	-
B																
Bardol B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium Acetate Sat'd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium Bromide	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Barium Carbonate, Sat'd	R	-	R	R	-	-	-	-	R	-	R	-	-	R	-	-
Barium Chloride, Sat'd	R	R	R	R	-	-	-	-	R	-	R	-	-	R	-	-
Barium Cyanide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium Hydroxide,10%	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Barium Hydroxide, Sat'd	R	R	R	R	-	-	-	-	R	R	R	-	-	R	-	-
Barium Nitrate, Sat'd	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Barium Sulfate, Sat'd	R	R	R	R	-	-	-	-	R	-	R	-	-	R	-	-
Barium Sulfide, Sat'd	R	R	R	R	-	-	-	-	R	-	-	-	-	R	-	-
Bayol35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bayol D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beer	R	R	R	R	-	-	-	-	R	R	R	-	-	R	-	-
Beet Sugar Liquors	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Benzal Chloride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	N	-	N	N	-	-	-	-	N	-	N	-	-	N	-	-
Benzaldehyde, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzaldehyde, 10%	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Benzaldehyde, >10%	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzaldehyde, 10%	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Benzaldehyde, 5%	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Benzalkonium Chloride	R	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-
Benzamide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	N	N	N	N	-	-	-	-	C	-	N	-	N	C	-	-
Benzene Sulfonic Acid, Sat'd	N	N	N	N	N	N	N	N	R	R	R	N	N	R	R	C

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CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °C	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Benzene Sulfonic Acid,10%	N	N	N	N	N	N	N	N	R	C	N	-	-	N	-	-
Benzenesulfonic Acid	N	-	-	N	-	-	-	-	N	-	-	-	-	R	-	-
Benzenesulfonic Acid,10%	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Benzene	R	R	R	-	-	-	-	-	C	-	-	-	-	-	-	-
Benzochloride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzoic Acid, All	R	R	C	R	-	C	-	-	R	R	R	R	R	R	-	-
Benzoic Acid Crystals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzoic Sulfimide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzophenone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzotrichloride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzotrifluoride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzoyl Benzoic Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzoyl Chloride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl Acetate	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-
Benzyl Alcohol	C	-	-	R	-	-	-	-	R	R	C	-	-	R	-	-
Benzyl Alcohol,1,5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl Benzoate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl Chloride	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Beryllium Sulfate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bismuth Carbonate	R	-	-	-	R	-	-	-	R	-	-	-	-	R	-	-
Black Liquor	R	-	-	-	R	-	-	-	R	-	-	-	-	R	-	-
Black Point 77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blast Furnace Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bleach, 12% Active Cl2	-	-	-	R	-	-	-	-	R	-	-	-	-	-	-	-
Bleach, 5% Active Cl2	R	-	-	R	-	-	-	-	R	-	-	-	-	-	-	-
Bleach Liauor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Borax, Sat'd	R	R	C	R	-	-	-	-	R	R	R	R	R	R	-	-
Bordeaux Mixture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boric Acid, 10%	R	-	C	R	R	R	R	R	R	R	R	R	R	R	-	-
Boric Acid, Sat'd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron Fluids (HEF)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron Trifluoride	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-
Brake Fluid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brine, Sat'd	R	R	R	R	-	R	-	-	R	R	R	R	R	-	-	-
Brom-113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brom-114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromic Acid	R	-	-	R	-	-	-	-	N	-	-	-	-	-	-	-
Bromic Acid, 10%	R	-	R	R	-	R	-	R	-	-	-	-	-	-	-	-
Bromine, Aqueous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine Liquid	N	-	N	N	-	N	-	N	N	-	N	-	N	N	-	-
Bromine Pentafluoride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C	Temp in °C
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Bromine Trifluoride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine Vapor, 25%	R	-	-	R	-	-	-	-	N	-	-	-	-	R	-	-
Bromine Water cold, Sat'd	N	-	-	-	-	-	-	-	-	-	-	-	-	N	-	-
Bromoacetic Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	N	-	-
Bromobutyric-2 Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-
Bromochloro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	-	-	-	-	-	-	-	-	-	-	-	-	-	N	-	-
Bromosalicylic Acid, Sat'd	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Bromotoluene	N	-	-	-	-	-	-	-	-	-	-	-	-	N	-	-
Bunker Oil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butadiene	R	-	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Butadiene, 50%	R	-	-	R	-	-	-	-	N	-	-	-	-	R	-	-
Butadiene Gas	R	-	-	R	-	-	-	-	R	-	-	-	-	-	-	-
Butanane- 2, 4-p-Methoxy	-	-	-	-	-	-	-	-	-	-	-	-	-	N	-	-
Butane, 50%	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Butane, Gas	R	-	-	R	-	-	-	-	R	-	-	-	-	-	-	-
Butter - Animal Fat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl Acetate	N	-	N	N	-	N	-	N	C	-	-	-	-	-	-	-
Butyl Acetyl Ricinoleate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl Acrylate Pure	N	-	-	N	-	-	-	-	N	-	-	-	-	-	-	-
Butyl Alcohol	R	-	C	R	R	-	-	-	R	-	R	-	C	R	-	-
Butyl Benzoate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl Bromide	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Butyl Butyrate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl Carbitol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl Cellosolve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl Cellosolve"Adipate	-	-	-	N	-	-	-	-	-	-	-	-	-	N	-	-
Butyl Chloride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl Ether	N	-	-	N	-	-	-	-	N	-	-	-	-	-	-	-
Butyl Glycolate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl Mercaptan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl Oleate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl Pheno	C	-	C	R	-	-	-	-	N	N	-	-	-	R	-	-
Butyl Phthalate	N	-	-	N	-	-	-	-	-	-	-	-	-	-	-	-
Butylamine, Sal'd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butylene, liquid	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyric Acid	R	-	-	-	-	-	-	-	R	R	C	-	-	-	-	-
Butyric Acid, pure	R	-	-	-	-	-	-	-	R	R	C	-	-	-	-	-
C																
Calcium Bisulfide	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Calcium Bisulfite	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

PP-R IS AN IDEAL MATERIAL FOR HOT & COLD WATER PLUMBING SYSTEMS

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °C	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Calcium Carbonate	R	R	R	R	R	R	-	-	R	R	R	-	-	-	-	-
Calcium Chlorate	R	R	R	R	-	-	-	-	R	-	-	-	-	-	-	-
Calcium Chloride, Sat'd	R	-	C	R	-	-	-	-	R	R	R	-	C	-	-	-
Calcium Hydroxide,30%	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Calcium Hydroxide, Sat'd	R	R	R	-	-	-	-	-	R	R	R	R	-	-	-	-
Calcium Hypochlorite	-	C	-	-	-	-	-	-	R	R	-	-	-	-	-	-
Calcium Nitrate, Sat'd	R	R	R	R	R	R	-	-	R	-	-	-	-	-	-	-
Calcium Sulfate	R	R	R	R	-	-	-	-	R	-	-	-	-	-	-	-
Calcium Sulfide, Sa'd	R	R	R	R	-	-	-	-	R	-	-	-	-	-	-	-
Camphor Oil	R	-	-	-	-	-	-	-	N	N	N	-	-	-	-	-
Carbon Dioxide, Pure Anhydrous	R	R	R	R	R	R	R	-	R	R	R	R	-	R	R	R
Carbon Dioxide, Pure Moist	R	R	R	R	R	R	R	-	R	R	R	R	-	R	R	R
Carbon Disulfide	C	-	N	N	-	N	-	N	R	-	N	-	N	-	-	-
Carbon Monoxide, Gas	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Carbon Tetrachloride	C	-	N	R	-	-	-	-	N	N	N	-	-	-	-	-
Carbonic Acid, Sat'd	R	R	R	R	-	-	-	-	-	-	-	-	-	-	-	-
Caustic Potash, 50%	R	R	C	-	-	-	-	-	R	R	R	R	R	-	-	-
Caustic Soda, 10%	R	R	C	-	-	-	-	-	R	R	R	R	R	-	-	-
Caustic Soda, 50%	R	R	R	-	-	-	-	-	R	R	R	R	R	-	-	-
Caustic Soda, up to 40%	R	R	C	-	-	-	-	-	R	R	R	R	R	-	-	-
Chloral Hydrate, All	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
Chloramine (Diluted)	R	-	-	R	-	-	-	-	R	-	-	-	-	-	-	-
Chloric Acid, 10%	R	R	C	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloric Acid, 20%	R	R	C	R	-	-	-	-	R	-	N	N	N	-	-	-
Chlorinated Water, 0.3%(Sat'd 1	-	R	R	R	R	R	R	-	C	-	-	-	-	R	R	R
Chlorine, Liquid	N	-	-	-	-	-	-	-	N	N	N	-	-	-	-	-
Chloroacetic Acid, 50%	R	R	C	-	-	-	-	-	R	R	R	-	-	-	-	-
Chlorobenzene, Dry	N	N	N	N	N	-	-	-	N	N	N	-	-	-	-	-
Chloroform, Dry	N	N	-	N	N	N	N	N	C	-	N	-	N	-	-	-
Chlorosulfonic Acid	C	-	N	-	-	-	-	-	N	N	N	N	N	-	-	-
Chrome Alum	R	R	C	R	R	R	R	R	R	R	R	-	C	-	-	-
Chromic Acid, 10%	R	-	C	R	R	R	R	R	R	-	C	-	N	-	-	-
Chromic Acid, 30%	R	-	C	R	R	R	R	R	C	-	N	-	N	-	-	-
Chromic Acid, 50%	R	R	C	R	-	-	-	C	C	-	N	N	N	-	-	-
Cider	R	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Coconut Oil	R	R	C	-	-	-	-	-	R	R	R	-	-	-	-	-
Compressed Air	C	-	-	-	-	-	-	-	C	-	-	-	-	R	R	-
Copper Chloride, Sat'd	R	-	R	R	R	R	R	R	R	R	R	-	-	-	-	-
Copper Cyanide	N	N	N	R	-	-	-	-	R	R	R	-	-	-	-	-
Copper Fluoborate	R	R	R	R	-	-	-	-	N	N	N	-	-	-	-	-
Copper Nitrate, 30%	R	-	C	R	-	-	-	-	R	R	R	-	-	-	-	-
Copper Salts	R	R	C	-	-	-	-	-	R	R	C	-	-	R	R	R

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended



CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °C	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Temp in °F																
Copper Sulfate, Sat'd	R	R	R	R	R	R	-	-	R	R	R	-	-	-	-	-
Cottonseed Oil	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Creosols	C	-	N	C	-	N	-	-	R	-	-	-	-	-	-	-
Creosylic Acid	C	-	N	R	-	-	-	-	-	-	-	-	-	-	-	-
Cresol, 50%	C	-	N	C	-	N	-	-	R	-	-	-	-	-	-	-
Cresol, 90%	N	N	N	N	N	N	-	-	C	-	-	-	-	-	-	-
Cyclohexane	N	N	N	N	N	N	-	-	R	-	C	-	-	R	R	R
Cyclohexanol	R	R	R	-	-	-	-	-	R	R	C	-	-	R	R	R
Cyclohexanone	N	N	N	N	N	N	N	N	R	C	N	N	N	R	C	C
D																
Decahydronaphthalene	R	R	R	-	-	-	-	-	N	N	N	-	-	-	-	-
Detergent, Water Solution	R	R	C	-	-	-	-	-	R	R	R	R	-	-	R	R
Di (Butoxyethyl) Phthalate	N	N	N	N	N	N	-	-	N	-	-	-	-	-	-	-
Dibutyl Phthalate	-	-	-	-	-	-	-	-	R	C	C	-	-	R	C	C
Dibutyl Sebacate	-	-	-	-	-	-	-	-	R	-	-	-	-	R	-	-
Dichloro Ethane	-	-	-	-	-	-	-	-	C	-	-	-	-	C	-	-
Dichlorobenzene	N	N	-	N	-	-	-	-	R	-	-	-	-	-	-	-
Dichloroethylene	N	N	N	-	-	-	-	-	C	-	-	-	-	-	-	-
Diethyl Ether	N	N	N	N	N	N	-	-	R	R	R	-	-	-	-	-
Diglycolic Acid, Sat'd	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Diisobutyl Ketone	-	-	-	-	-	-	-	-	R	-	-	-	-	R	-	-
Dimethylamine	C	-	R	-	-	-	-	-	R	-	C	-	-	-	-	-
Dimethylformamide	C	-	-	-	-	-	-	-	R	-	-	-	-	R	-	C
Dinonyl Phthalate	-	-	-	-	-	-	-	-	R	-	-	-	-	C	-	-
Dioctyl Phthalate	N	N	N	-	-	-	-	-	R	C	C	-	-	C	-	-
Dioxane	-	-	-	-	-	-	-	-	C	C	C	-	-	R	R	R
E																
Ethers	N	N	N	N	N	N	-	-	N	N	N	-	-	-	-	-
Ethyl Acetate	N	N	N	N	N	N	N	N	R	C	C	N	N	R	C	C
Ethyl Alcohol	R	R	C	R	-	-	-	-	R	R	R	R	R	R	R	R
Ethyl Benzene	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
Ethyl Ether	N	N	N	N	N	N	-	-	N	N	N	-	-	-	-	-
Ethylene Chloride	-	-	-	-	-	-	-	-	C	-	-	-	-	C	-	-
Ethylene Chlorohydrin	N	N	N	N	N	N	N	-	-	-	-	-	-	-	-	-
Ethylene Diamine	C	-	-	-	-	-	-	-	R	-	-	-	-	R	R	R
Ethylene Glycol, 100%	R	R	R	N	-	-	-	-	R	R	R	R	R	R	R	R
Ethylene Glycol, 50%	-	-	-	R	R	R	R	-	-	-	-	-	-	-	-	-
Ethylene Oxide	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
Fatty Acids	R	R	R	R	R	R	-	-	R	R	R	-	-	-	-	-
Fatty Alcohol. Sulfamate	R	R	C	-	-	-	-	-	R	R	C	-	-	R	R	R
Ferric Chloride	R	-	C	R	-	-	-	-	R	R	R	-	-	-	-	-
Ferric Chloride, Sat'd	R	R	R	R	R	R	R	R	R	R	R	R	R	-	-	-

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

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CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °C	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Ferric Nitrate, Sat'd	R	R	R	R	-	-	-	-	-	-	-	-	-	-	-	-
Ferric Sulfate	R	R	R	R	-	-	-	-	R	-	-	-	-	-	-	-
Ferrous Chloride, Sat'd	R	R	R	R	R	R	-	-	R	-	-	-	-	-	-	-
Ferrous Sulfate	R	R	R	R	-	-	-	-	R	-	-	-	-	-	-	-
Fluorine Gas (Dry),100%	C	-	N	-	-	-	-	-	N	N	N	-	-	-	-	-
Fluosilicic Acid, 30%	R	R	R	R	R	R	R	R	R	R	R	-	-	-	-	-
Formaldehyde	R	-	C	R	-	-	-	C	R	R	R	-	-	-	-	-
Formamide	-	-	-	-	-	-	-	-	R	R	R	-	-	R	R	R
Freon 12, 100%	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fruit Juice, Pure	R	R	R	-	-	-	-	-	R	R	R	R	R	R	R	R
Furfuryl Alcohol	-	-	-	-	-	-	-	-	R	-	C	-	-	R	R	R
G																
Gasoline	R	R	C	N	N	N	N	N	N	N	N	N	N	R	R	R
Gelatin	R	R	R	R	-	N	-	-	R	R	R	-	-	R	R	R
Glucose	R	R	C	R	-	-	-	-	R	R	R	R	R	-	-	-
Glycerine	R	R	R	-	-	-	-	-	R	R	R	R	R	R	R	R
Glycine, Aqueous	R	R	R	R	R	R	R	R	R	R	R	R	R	-	-	-
Glycolic Acid, Sat'd	R	-	-	-	-	-	-	-	R	-	-	-	-	R	R	R
H																
Heptane	R	-	C	R	-	-	-	-	R	-	C	-	-	R	-	C
n-Hexane	R	-	C	R	-	-	-	-	R	-	C	-	-	R	-	C
Hydrazine Hydrate	R	-	-	-	-	-	-	-	R	R	R	-	-	R	R	R
Hydrobromic Acid, 50%	R	R	R	-	-	-	-	-	R	R	R	-	-	R	R	R
Hydrochloric Acid, 10%	R	R	C	-	-	-	-	-	R	R	C	C	-	R	R	R
Hydrochloric Acid, 25%	R	-	C	R	R	R	R	R	R	R	R	R	R	-	-	-
Hydrochloric Acid, 36%	R	R	C	-	-	-	-	-	R	C	-	-	-	R	R	R
Hydrochloric Acid, 37%	R	R	R	C	-	R	-	R	R	R	R	-	C	-	-	-
Hydrocyanic Acid	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Hydrofluoric Acid, 10%	R	-	C	R	-	C	-	-	R	R	R	-	N	-	-	-
Hydrofluoric Acid, 60%	C	-	N	R	-	C	-	-	R	-	N	-	N	-	-	-
Hydrogen Peroxide, 30%	R	R	R	R	R	R	R	R	R	R	R	-	-	R	R	R
Hydrogen Sulfide, Dry	R	-	C	-	-	-	-	-	R	R	R	-	-	-	-	-
Hydroxylamine Sulfate	R	R	R	-	-	-	-	-	R	R	R	-	-	R	R	R
I																
Iodine	-	-	-	-	-	-	-	-	R	-	-	-	-	R	-	C
Iso butane	R	-	-	-	-	-	-	-	C	-	N	-	-	-	-	-
Isooctane	R	-	-	-	-	-	-	-	R	-	C	-	-	R	-	C
Isopropyl Acetate	R	-	-	-	-	-	-	-	R	R	R	R	R	R	R	R
Isopropyl Alcohol	-	-	C	-	-	-	-	-	R	R	R	-	-	-	-	-
Isopropyl Ether	C	-	N	-	-	-	-	-	C	-	N	-	-	C	-	-
L																
Lactic Acid, 10%	R	C	-	-	-	-	-	-	R	R	R	R	R	R	R	R

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
Temp in °C	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Lanolin	R	C	-	-	-	-	-	-	R	R	R	-	-	R	R	R
Lead Acetate, Sat'd	R	R	R	R	R	R	R	R	R		C	C	C	R	R	R
Linseed Oil	R	R	C	R	-	-	-	-	R	R	R	R	R	R	R	R
Liqueurs	R	R	-	-	-	-	-	-	R	-	-	-	-	R	R	-
M																
Magnesium Carbonate	R	-	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Magnesium Chloride, Sat'd	R	R	R	R	R	R	R	R	R	R	R	-	C	-	-	-
Magnesium Hydroxide	R	R	R	R	R	R	R	-	R	R	R	R	-	R	R	R
Magnesium Nitrate	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Magnesium Salts	R	R	C	-	-	-	-	-	R	R	R	R	R	R	R	R
Malic Acid	R	-	-	R	-	-	-	-	R	-	R	-	-	-	-	-
Mercuric Chloride, Sat'd	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Mercuric Cyanide, Sat'd	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Mercurous Nitrate, Sat'd	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Mercury	R	R	R	R	-	-	-	-	R	R	R	-	-	R	R	R
Mercury Salts	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Methane	R	-	-	-	-	-	-	-	R	-	-	-	-	R	-	-
Methyl Acetate	-	-	-	-	-	-	-	-	R	R	R	-	-	R	-	-
Methyl Alcohol	R	R	R	R	-	-	-	-	R	-	C	-	C	-	-	-
Methyl Amine	C	-	N	-	-	-	-	-	R	-	C	-	-	R	-	-
Methyl Bromide	N	-	-	-	-	-	-	-	N	N	N	-	-	-	-	-
Methylene Chloride	N	-	N	N	-	N	-	N	N	-	N	-	N	C	-	-
Methylsulfuric Acid	R	-	C	R	-	-	-	-	N	-	N	-	N	C	-	-
Milk	R	R	R	R	R	R	R	R	R	R	R	R	R	-	-	-
Molasses	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Morpholine	-	-	-	-	-	-	-	-	R	R	R	-	-	R	R	-
N																
Naphtha	C	-	N	R	-	-	-	-	R	-	N	-	-	-	-	-
Naphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	C
Nickel Chloride, Sat'd	R	R	R	R	R	R	R	R	R	R	R	R	R	-	-	-
Nickel Nitrate	R	R	R	R	-	-	-	-	R	R	R	-	C	-	-	-
Nickel Sulfate, Sat'd	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Nitric Acid, 100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitric Acid, 40%	R	R	R	R	R	R	R	R	C	-	N	-	N	-	-	-
Nitric Acid, 60%	R	-	C	R	R	R	R	R	C	-	N	-	N	-	-	-
Nitric Acid, 65%	C	C	-	-	-	-	-	-	-	-	-	-	-	C	-	-
Nitrobenzene	N	N	N	N	N	N	-	-	R	-	C	-	-	-	-	-
O																
Oleic Acid	R	R	R	R	-	-	-	-	R	R	C	-	-	R	R	C
Oleum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Olive Oil	R	R	C	-	-	-	-	-	R	R	R	R	R	R	R	C
Oxygen Gas	R	R	R	R	R	R	-	-	N	N	N	-	-	-	-	-

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

PP-R IS AN IDEAL MATERIAL FOR HOT & COLD WATER PLUMBING SYSTEMS

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
Temp in °C	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Ozone	R	R	C	R	-	-	-	-	C	N	N	-	-	C	-	-
P																
Palmitic Acid	R	-	-	-	-	-	-	-	C	-	-	-	-	C	-	-
Palmitic Acid, 10%	R	R	R	R	-	-	-	-	-	-	N	-	-	-	-	-
Palmitic Acid, 70%	R	R	R	R	-	-	-	-	-	-	N	-	-	-	-	-
Paraffin	-	-	-	C	-	-	-	-	-	-	R	-	-	-	-	-
Paraffin Emulsion	R	R	R	R	-	-	-	-	R	R	C	-	-	R	R	C
Perchloric Acid, 10%	R	R	R	R	-	-	-	-	R	R	R	-	-	R	R	R
Perchloric Acid, 70%	R	-	C	-	-	-	-	-	R	-	-	-	-	R	R	R
Perchloroethylene	-	-	-	-	-	-	-	-	C	-	-	-	-	C	-	-
Petroleum	R	-	-	-	-	-	-	-	R	C	C	-	-	R	R	C
Phenol, 90%	R	C	-	-	-	-	-	-	R	R	R	-	-	R	R	C
Phenyl Hydrazine	N	N	N	N	N	N	-	-	C	C	C	-	-	C	-	-
Phosgene Gas	R	C	C	-	-	-	-	-	C	-	-	-	-	C	-	-
Phosgene Liquid	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
Phosphoric Acid, 25%	R	-	C	R	-	-	-	C	R	R	R	R	R	-	-	-
Phosphoric Acid, 30%	R	R	C	-	-	-	-	-	R	R	R	R	-	R	R	R
Phosphoric Acid, 50%	R	R	R	R	-	-	-	C	R	R	R	R	R	R	R	R
Phosphoric Acid, 85%	R	R	R	R	-	-	-	C	R	R	R	R	R	R	R	C
Phosphorous Pentoxide	R	R	-	-	-	-	-	-	R	-	-	-	-	R	R	-
Phosphorous Trichloride	N	N	N	N	N	N	-	-	R	-	C	-	-	-	-	-
Phosphorus Oxychloride	-	-	-	-	-	-	-	-	R	-	C	-	-	R	-	C
Phosphorus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachloride	-	-	-	-	-	-	-	-	R	-	C	-	-	R	-	C
Potassium Bicarbonate	R	R	C	-	-	-	-	-	R	R	R	R	R	R	R	R
Potassium Borate	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Potassium Bromate	R	R	C	R	-	-	-	-	R	R	R	R	R	R	R	C
Potassium Bromide	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Potassium Carbonate	R	R	R	-	-	-	-	-	R	-	-	-	-	-	-	-
Potassium Chlorate	R	R	R	-	-	-	-	-	R	R	R	-	-	R	R	R
Potassium Chloride	R	R	R	-	-	-	-	-	R	R	R	R	R	R	R	R
Potassium Chromate	R	R	R	-	-	-	-	-	R	R	R	-	-	R	-	-
Potassium Cyanide	R	R	R	-	-	-	-	-	R	R	R	-	-	R	R	R
Potassium Ferricyanide	R	R	R	R	-	-	-	-	R	R	R	-	C	-	-	-
Potassium Fluoride	-	-	-	-	-	-	-	-	R	R	R	-	-	-	-	-
Potassium Iodide	R	R	R	-	-	-	-	-	R	R	R	-	-	R	R	R
Potassium Nitrate	R	R	R	R	R	R	R	R	R	R	R	-	-	R	R	R
Potassium Perborate	R	R	R	R	-	-	-	-	R	-	-	-	-	-	-	-
Potassium Perchlorate	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Potassium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Permanganate, Sat'd	R	R	C	R	R	R	C	-	R	R	C	-	-	R	R	C
Potassium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °C	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Temp in °F																
Permanganate, 10%	R	R	C	R	R	R	R	-	R	R	R	R	-	-	-	-
Potassium Persulfate	R	R	C	R	-	-	-	-	R	R	R	-	-	R	R	R
Potassium Sulfate	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Propane	R	-	-	-	-	-	-	-	R	-	-	-	-	R	-	-
1-Propanol	R	C	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Propargyl Alcohol	R	R	R	-	-	-	-	-	R	R	R	-	-	R	R	R
Propionic Acid, 50%	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Propyl Alcohol	R	-	C	R	-	-	-	-	R	R	R	-	-	-	-	-
Propylene Oxide	C	-	-	-	-	-	-	-	R	-	-	-	-	C	-	-
Pyridine	N	N	N	N	N	N	-	-	C	C	C	-	-	-	-	-
S																
Sea Water	R	R	R	R	R	R	R	R	R	R	R	R	R	-	-	-
Silicic Acid	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Silicone Oil	R	R	N	-	-	-	-	-	R	R	R	-	-	R	R	R
Silver Cyanide	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Silver Nitrate	R	-	C	R	R	R	R	R	R	R	R	-	C	-	-	-
Soaps	R	R	C	R	-	-	-	-	R	R	R	-	-	R	R	R
Sodium Acetate, Sat'd	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Sodium Benzoate	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Sodium Bicarbonate	R	R	R	R	R	R	R	R	R	R	R	R	R	-	R	R
Sodium Bichromate, Sat'd	R	R	R	R	R	R	R	R	R	R	R	R	R	-	-	-
Sodium Bisulfate	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Sodium Bisulfite	R	R	R	R	R	R	R	R	R	R	R	-	C	R	R	R
Sodium Bromide Sat'd	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Sodium Chlorate, Sat'd	R	-	C	R	-	-	-	-	R	R	R	-	-	-	-	-
Sodium Chloride	R	R	C	R	R	R	-	-	R	R	R	R	-	R	-	-
Sodium Chromate	R	R	C	-	-	-	-	-	R	R	-	-	-	R	-	-
Sodium Ferrocyanide, Sat'd 1	-	R	R	R	-	-	-	-	-	-	-	-	-	-	-	-
Sodium Fluoride	R	R	R	R	-	-	-	-	R	-	-	-	-	R	-	-
Sodium Hypochlorite	R	-	C	R	-	-	-	-	R	-	-	-	-	-	-	-
Sodium Iodide	R	R	C	-	-	-	-	-	R	-	-	-	-	R	-	-
Sodium Nitrate, Sat'd	R	R	R	R	-	-	-	-	R	R	R	-	-	R	R	R
Sodium Nitrite, Sat'd	R	-	-	-	-	-	-	-	R	-	-	-	-	R	-	-
Sodium Oxalate	R	R	C	-	-	-	-	-	R	-	-	-	-	R	-	-
Sodium Perborate	R	R	R	R	R	R	R	R	R	-	-	-	-	-	-	-
Sodium Phosphate	R	R	C	-	-	-	-	-	R	R	R	R	R	R	R	R
Sodium Sulfate, Sat'd	R	R	R	R	-	-	-	-	R	R	R	R	-	R	R	R
Sodium Sulfide	R	R	C	R	-	-	-	-	R	R	R	-	-	R	R	R
Sodium Sulfite	R	R	R	R	-	-	-	-	R	R	R	-	-	R	R	R
Sodium Thiosulfate	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Stannous Chloride, 15%	R	C	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Stearic Acid, 100%	R	R	R	R	R	R	-	-	R	C	C	-	-	R	-	C

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

PP-R IS AN IDEAL MATERIAL FOR HOT & COLD WATER PLUMBING SYSTEMS

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °C	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Succinic Acid	R	R	R	-	-	-	-	-	R	R	R	-	-	R	R	R
Sugar SvruD	R	R	C	R	-	-	-	-	R	R	R	R	-	R	R	R
Sulfur Dioxide Gas, Dry	R	R	R	R	-	-	-	-	R	R	R	-	N	-	-	-
Sulfur Dioxide Gas, Wet	C	-	N	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfur Dioxide Liquified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfuric Acid, 51% to 60%	R	R	R	-	-	-	-	-	R	R	R	-	-	R	R	R
Sulfuric Acid, 71% to 80%	R	R	R	-	-	-	-	-	R	R	C	-	-	R	R	C
Sulfuric Acid, 96%	R	R	C	R	-	N	-	N	N	N	N	N	N	-	-	-
Sulfuric Acid, 97%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfurous Acid	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
T																
Tannic Acid	R	-	-	-	-	-	-	-	R	R	R	-	-	R	R	R
Tartaric Acid	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Tetrachloroethane	N	N	N	-	-	-	-	-	C	-	N	-	-	C	-	-
Tetraethyl Lead	R	-	C	R	-	-	-	-	R	-	-	-	-	-	-	-
Tetrahydrofuran	N	N	N	N	N	N	N	N	C	-	N	-	N	-	-	-
Thionyl Chloride	N	-	-	N	-	-	-	-	N	-	-	-	-	-	-	-
Toluene	N	N	N	N	N	N	N	N	C	N	N	N	N	C	-	-
Transformer Oil	R	-	C	-	-	-	-	-	R	-	C	-	-	-	-	-
Tributyl Phosphate	-	-	-	-	-	-	-	-	R	R	R	-	-	R	R	R
Trichloroacetic Acid	C	-	-	-	-	-	-	-	R	R	R	-	-	R	R	R
Trichloroacetic Acid, 50%	R	C	N	-	-	-	-	-	R	R	R	-	-	R	R	R
Trichloroethylene	N	N	N	N	N	N	-	-	N	N	N	-	-	-	-	-
Tricresyl Phosphate	-	-	-	-	-	-	-	-	R	-	C	-	-	R	R	R
Triethanolamine	C	-	N	-	-	-	-	-	R	-	-	-	-	R	R	R
Triethylamine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trioctyl Phosphate	-	-	-	-	-	-	-	-	R	-	-	-	-	C	-	-
Turpentine	R	C	-	-	-	-	-	-	-	-	-	-	-	C	C	C
U																
Urea	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Urea, 30%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uric Acid	R	-	C	R	-	C	-	-	-	-	-	-	-	-	-	-
Urine	R	R	C	R	-	-	-	-	R	R	R	-	-	R	R	R
V																
Vaseline	R	-	N	-	-	-	-	-	R	-	C	-	-	-	-	-
Vegetable Oil	R	C	-	-	-	-	-	-	R	R	C	-	-	R	C	-
Vinegar	R	R	R	-	-	-	-	R	-	R	R	R	R	R	R	R
Vinyl Acetate	N	N	N	N	N	N	-	-	R	-	-	-	-	-	-	-
Vinyl Chloride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W																
Water, Deionized	R	R	R	-	-	-	-	-	R	R	R	R	R	R	R	R
Whiskey	R	R	R	R	-	-	-	-	R	-	-	-	-	-	-	-

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

CHEMICAL RESISTANCE CHART

Chemical	PVC			CPVC					PPR					HDPE		
Temp in °C	20	40	60	20	40	60	80	100	20	40	60	80	100	20	40	60
Temp in °F	68	104	140	68	104	140	176	212	68	104	140	176	212	68	104	140
Wines	R	R	R	R	R	R	R	R	R	R	R	-	-	-	-	-
X																
Xylene	-	-	-	-	-	-	-	-	R	R	C	-	-	-	-	-
Y																
Yeast	R	R	-	-	-	-	-	-	R	R	R	-	-	R	R	R
Z																
Zinc Chloride	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Zinc Nitrate	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-
Zinc Salts	R	R	C	-	-	-	-	-	R	R	R	-	-	R	R	R
Zinc Sulfate	R	R	R	R	-	-	-	-	R	R	R	-	-	-	-	-

In the table the figure stands for the below mentioned:

R - Stands for recommended | **C** - Stands for use with caution | **N** - Stands for not recommended

CHEMICAL RESISTANCE CHART

Chemical & Concentration Formula	Concentration	ABS	PP	PVC	PE
H ₃ PO ₄	85%	-	100	60	23
	98%	-	-	-	-
Potassium 1	0%	-	82	23	60
Permanganate (KMnO ₄)	25%	-	23	23	60
Soap	-	23	60	60	R to 60
Sodium Bicarbonate (NaHCO ₃)	23%	23	100	60	60
Sodium Carbonate (NaCl)	23	100	60	60	-
Sodium Hypo Chlorite (NaOClO 5H ₂ O)	-	49	23	23	60
Sulfur S	-	-	100	60	60
	30%	49	82	60	60
	50%	23	82	60	49
	60%	C to 23	23	60	49
	70%	C to 23	23	60	R to 49
Sulfuric Acid (H ₂ SO ₄)	80%	C to 23	82	60	R to 49
	90%	C to 23	66	23	49
	93%	N	C to 23	23	C to 23
	94% - 98%	N	C to 23	N	C to 23
	100%	N	C to 23	N	C to 23
Urea	-	-	82	60	60
Urine	-	71	82	60	60
Water, Acid Mild	-	71	60	60	60
H ₂ O	-	71	60	60	60
Water (H ₂ O), Deionized	-	71	60	60	60
Water (H ₂ O), Distilled	-	71	100	100	60
Water (H ₂ O), Salt	-	71	100	60	60
Water (H ₂ O), Sea	-	71	100	60	60
Water (H ₂ O), Soft	-	71	100	60	60
Zinc Sulfate	-	71	82	60	60

RESISTANCE CODES

Code	Meaning	Typical Results
60	Plastic type is generally resistant to temperature (°C) indicated by code.	Swelling < 3% or weight loss < 0.5% and elongation at break not significantly changed.
R to 23	Plastic type is generally resistant to temperature (°C) indicated by code and may have limited resistance at higher temperatures.	Swelling < 3% or weight loss < 0.5% and elongation at break not significantly have limited resistance at higher temperatures changed.
C to 23	Plastic type is generally resistant to temperature (°C) indicated by code and may be suitable for some conditions	Swelling 3-8% or weight loss < 0.5-5% and / or elongation at break decreased by suitable for some conditions. < 50%.
N	Plastic type is not resistant.	Swelling < 8% or weight loss < 5% and / or elongation at break decreased by > 50%.
-	Data not available	Data not available

- Chemicals that do not normally affect the properties of an unstressed thermoplastic may cause completely different behavior (such as stress cracking) when under thermal or mechanical stress (such as constant internal pressure or frequent thermal or mechanical stress cycles).
- Unstressed immersion test chemical resistance information is applicable only when the thermoplastic pipe will not be subject to mechanical or thermal stress that is constant or cycles frequently.
- When the pipe will be subject to a continuous applied mechanical or thermal stress or to combinations of chemicals, testing that duplicates the expected field conditions as closely as possible should be performed on representative samples of the pipe product to properly evaluate plastic pipe for use in this application

INSTALLATION IMAGES

GREENFIT PP-R INSTALLATION



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