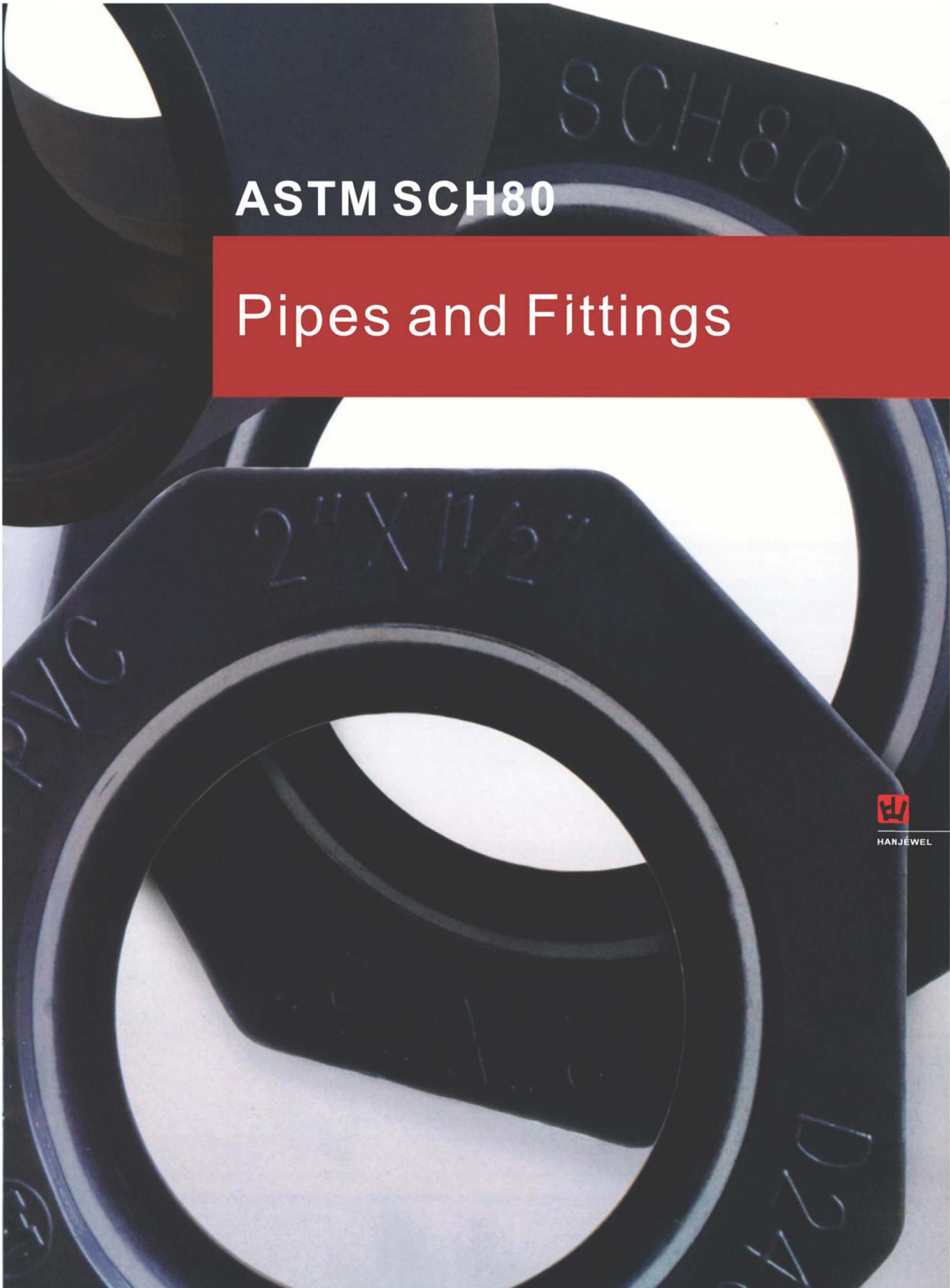


ASTM SCH80

Pipes and Fittings

HANJEWEL

Understanding Safety Alert Messages

There are several types of safety-alert messages which appear throughout this Technical Manual. Familiarize yourself with these types of messages and the importance of the various signal words, as explained below.



This safety alert symbol indicates important safety messages in this manual.
When you see this symbol be alert to the possibility of personal injury and carefully read and fully understand the message that follows.

⚠ DANGER

DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. Safety Signs identified by the signal word DANGER should be used sparingly and only for those situations presenting the most serious hazards.

⚠ WARNING

WARNING Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury. Hazards identified by the signal word WARNING present a lesser degree of risk of injury or death than those identified by the signal word DANGER.

⚠ CAUTION

CAUTION Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Advatages of Sch80 PVC and CPVC Pipe

PVC and CPVC pipe have a number of outstanding features, such as high chemical resistance, easy installation, and reasonable price, which can lead to the reduction of total construction cost. PVC and CPVC can or should replace other materials of construction in size ranges available for all sorts of piping systems.

CPVC (Chlorinated Polyvinyl Chloride) is another rigid pipe which has three highly-desirable characteristics, good mechanical strength at high temperatures and higher chemical resistance and relatively compared to metal. CPVC polymer is more chlorinated into PVC polymer. This extra chlorine is responsible for the material's high-temperature strength and other properties which are valuable for industrial piping. For pressure piping applications, it is recommended for temperatures as high as 200°F compared with 140°F of PVC.

PVC & CPVC Pipe ranging in sizes from 1/2" through 24", and PVC fittings and PVC valves are available for light, medium, and heavy duty use.

PVC and CPVC are environmentally friendly polymer in terms of low carbonic acid gas emission in manufacturing process

Advantages

Chemical Resistance

PVC and CPVC pipe are inert to attack by strong acids, alkalis, salt solutions, alcohols, and many other chemicals. They are dependable on corrosive applications and impart no tastes or odors to materials carried in them. They do not react with materials carried, nor act as a catalyst. All possibility of contamination, or chemical process changes, and all danger of clouding, slugging, or discoloration are eliminated.

Strength

PVC and CPVC pipe are highly resilient, tough and durable products that have high tensile and high impact strength. They will withstand surprisingly high pressure for long periods.

Fire Resistance PVC and CPVC pipe products are self extinguishing and will not support combustion. They have an ASTM E-84 flame spread rate of 25 or less.

Internal Corrosion Resistance

PVC and CPVC pipe resist chemical attack by most acids, alkalis, salts, and organic media such as alcohols and aliphatic hydrocarbons, within certain limits of temperature and pressure. They provide the needed chemical resistance, while eliminating the disadvantages of special metals, lined piping, glass, wood, ceramics, or other special corrosion-resisting materials, which formerly had to be used.

External Corrosion Resistance

Industrial fumes, humidity, saltwater, weather, atmospheric, or underground conditions, regardless of type of soil or moisture encountered, cannot harm rigid PVC and CPVC plastic pipe.
Scratches or surface abrasions do not provide points which corrosive elements can attack.
Immunity to Galvanic or Electrolytic Attack PVC and CPVC pipe are inherently immune to galvanic or electrolytic action. They can be used underground, underwater, in the presence of metals, and can also be connected to metals.

Freedom from Toxicity, Odors, Tastes

PVC and CPVC piping are non-toxic, odorless, and tasteless. They have been listed by the National Sanitation Foundation for use with potable water.

Corrosion Free

With many other pipe materials, slight corrosion may occur. The corroded particles can contaminate the piped fluid, complicating further processing, or causing bad taste, odors, or discoloration. This is particularly undesirable when the piped fluid is for domestic consumption. With PVC and CPVC, there are no corrosive by-products, therefore, no contamination of the piped fluid.

Low Friction Loss

The smooth interior surfaces of PVC and CPVC pipe, compared to metal and other piping materials, assure low friction loss and high flow rates. Additionally, since PVC and CPVC pipe will not rust, pit, scale, or corrode, the high flow rates will be maintained for the life of the piping system.

Low Thermal Conductivity

PVC and CPVC pipe have a much lower thermal conductivity factor than metal pipe. Therefore, fluids being piped maintain a more constant temperature. In most cases, pipe insulation is not required.

Easy Installation and Low Installation Cost

PVC and CPVC pipe are lightweight, convenient to handle, relatively flexible, and easy to install. For example, it is approximately 1/5 to 1/6 for the weight of metal.
They have smooth, seamless interior walls. No special tools are required for cutting. They can be installed using solvent cementing, threading, flanging techniques.
These features lead to lower installed costs than conventional metal piping.

Maintenance Free

Once a PVC or CPVC piping system is properly selected, designed, and installed, it is virtually maintenance free. It will not rust, scale, pit, corrode, or promote build-up on the interior. Therefore, years of trouble-free service can be expected when using Charlotte Pipe and Foundry PVC and CPVC pipe.

Physical Properties of PVC and CPVC Material

Properties of PVC & CPVC PIPE

•inch-lb Unit

ITEM	Test Method	inch-lb unit		
		unit	PVC	CPVC
GENERAL				
Cell Classification	ASTM D1784	—	12454	23447
Maximum Usable Temp.	—	°F	140	200
Specific Gravity @ 73°F(23°C)	ASTM D792	g/cc	1.42±0.02	1.55±0.02
Water Absorption % increase 24 hrs@ 73°F (23°C)	ASTM D570	%	0.04	0.04
Hardness, Rockwell	ASTM D785	—	110 - 120	115-125
Poisson's Ratio @ 73°F(23°C)	ASTM D638	—	0.38	0.36
MECHANICAL				
Tensile Strength @ 73°F (23°C)	ASTM D638	psi	7,100	7,700
Tensile Strength @194 °F(90°C)	〃	psi	—	3,200
Tensile Modulus of Elasticity @ 73°F (23°C)	〃	psi	410,000	380,000
Tensile Modulus of Elasticity @ 194°F(90°C)	〃	psi	—	220,000
Flexural Strength @ 73°F (23°C)	ASTM D790	psi	14,000	13,000
Flexural Modulus of Elasticity @ 73°F(23°C)	〃	psi	400,000	390,000
Compressive Strength @ 73°F(23°C) ε=10%	ASTM D695	psi	10,000	14,000
Compressive Modulus of Elasticity @ 73°F	〃	psi	110,000	145,000
Izod Impact, notched @ 73°F (23°C)	ASTM D256	ft-lb/in	1.5	3.0
THERMAL				
Coefficient of Linear Expansion	ASTM D696	in/in/°F	2.5-3.5x10^{-5}	3.0-4.0x10^{-5}
Coefficient of Thermal Conductivity	ASTM C177	BTU/in/hr/ft.2/°F	1.20	0.90
Heat Deflection Temperature Under Load (264psi, annealed)	ASTM D648	°F	165	230
Specific Heat	ASTM D2766	Cal./°C/g	0.27	0.26
ELECTRICAL				
Volume Resistivity	ASTM D257	ohm/cm	>1.0 x 10^{15}	>1.0 x 10^{15}
Dielectric Strength	ASTM D149	volt/mm	>1000	>1000
Dielectric Constant	ASTM D150	—	3	3
Power Factor	〃	—	0.01-0.02	0.01-0.02
Electrical Conductivity	—	—	Non Conductor	Non Conductor
FIRE PERFORMANCE				
Flammability Rating	UL-94	—	-0	V-0, 5VB, 5VA
Flame Spread Index	〃	—	<10	<10
Average Time of Burning	ASTM D635	sec	<5	<5
Average Extent of Burning	〃	mm	<10	<10
Burning Rate	〃	mm/min	Self Extinguishing	Self Extinguishing
Limiting Oxygen Index (LOI)	ASTM D2863	LOI	45	60

HANJÉWEL

•SI Unit

ITEM	Test Method	SI unit		
		unit	PVC	CPVC
GENERAL				
Cell Classification	ASTM D1784	—	12454	23447
Maximum Usable Temp.	—	℃	60	93
Specific Gravity @ 73°F (23°C)	ASTM D792	g/cc	1.42±0.02	1.55±0.02
Water Absorption % increase 24 hrs@ 73°F(23°C)	ASTM D570	%	0.04	0.04
Hardness, Rockwell	ASTM D785	—	110 - 120	115-125
Poisson's Ratio @ 73°F(23°C)	ASTM D638	—	0.38	0.36
MECHANICAL				
Tensile Strength @ 73°F (23°C)	ASTM D638	MPa	49.0	53.1
Tensile Strength @194 °F (90°C)	〃	MPa	—	22.1
Tensile Modulus of Elasticity @ 73°F(23°C)	〃	GPa	2.83	2.62
Tensile Modulus of Elasticity @ 194°F(90°C)	〃	GPa	—	1.52
Flexural Strength @ 73°F (23°C)	ASTM D790	MPa	96.5	89.6
Flexural Modulus of Elasticity @ 73°F(23°C)	〃	GPa	2.76	2.69
Compressive Strength @ 73°F (23°C) ε=10 %	ASTM D695	MPa	69.0	96.5
Compressive Modulus of Elasticity @ 73°F	〃	GPa	0.76	1.00
Izod Impact, notched @ 73°F (23°C)	ASTM D256	J/m	80	160
THERMAL				
Coefficient of Linear Expansion	ASTM D696	m/m/°C	6.0-8.0x10^{-5}	7.0-8.0x10^{-5}
Coefficient of Thermal Conductivity	ASTM C177	Watt/m/°K	0.17	0.13
Heat Deflection Temperature Under Load (264psi, annealed)	ASTM D648	℃	74	110
Specific Heat	ASTM D2766	J/°K/g	1.1	1.1
ELECTRICAL				
Volume Resistivity	ASTM D257	ohm/cm	>1.0 x 10^{15}	>1.0 x 10^{15}
Dielectric Strength	ASTM D149	volt/mm	>1000	>1000
Dielectric Constant	ASTM D150	—	3	3
Power Factor	〃	—	0.01-0.02	0.01-0.02
Electrical Conductivity	—	—	Non Conductor	Non Conductor
FIRE PERFORMANCE				
Flammability Rating	UL-94	—	V-0	V-0, 5VB, 5VA
Flame Spread Index	〃	—	<10	<10
Average Time of Burning	ASTM D635	sec	<5	<5
Average Extent of Burning	〃	mm	<10	<10
Burning Rate	〃	mm/min	Self Extinguishing	Self Extinguishing
Limiting Oxygen Index (LOI)	ASTM D2863	LOI	45	60

NOTE:

Physical Properties of PVC and CPVC Material

Properties of PVC & CPVC Fitting

•inch-lb Unit

ITEM	Test Method	inch-lb unit		
		unit	PVC	CPVC
GENERAL				
Cell Classification	ASTM D1784	—	12454	23447
Maximum Usable Temp.	—	°F	140	200
Specific Gravity @ 73°F 23°C	ASTM D792	g/cc	1.42±0.02	1.55±0.02
Water Absorption % increase 24 hrs@ 73°F 23°C	ASTM D570	%	0.04	0.04
Hardness, Rockwell	ASTM D785	—	110 - 120	115-125
Poisson's Ratio @ 73°F 23°C	ASTM D638	—	0.38	0.36
MECHANICAL				
Tensile Strength @ 73°F 23°C	ASTM D638	psi	7,700	7,700
Tensile Strength @194 °F 90°C	〃	psi	—	3,200
Tensile Modulus of Elasticity @ 73°F 23°C	〃	psi	420,000	380,000
Tensile Modulus of Elasticity @ 194°F 90°C	〃	psi	—	220,000
Flexural Strength @ 73°F 23°C	ASTM D790	psi	13,000	13,000
Flexural Modulus of Elasticity @ 73°F 23°C	〃	psi	420,000	390,000
Compressive Strength @ 73°F 23°C =10	ASTM D695	psi	10,000	14,000
Compressive Modulus of Elasticity @ 73°F	〃	psi	110,000	145,000
Izod Impact, notched @ 73°F 23°C	ASTM D256	ft-lb/in	1.0	3.0
ELECTRICAL				
Coefficient of Linear Expansion	ASTM D696	in/in/°F	2.5-3.5x10^{-5}	3.0-4.0x10^{-5}
Coefficient of Thermal Conductivity	ASTM C177	BTU/in/hr/ft.2/°F	1.11	0.90
Heat Deflection Temperature Under Load (264psi, annealed)	ASTM D648	°F	170	230
Specific Heat	ASTM D2766	Cal./°C/g	0.27	0.26
ELECTRICAL				
Volume Resistivity	ASTM D257	ohm/cm	>1.0 x 10^{15}	>1.0 x 10^{15}
Dielectric Strength	ASTM D149	volt/mm	>1000	>1000
Dielectric Constant	ASTM D150	—	3	3
Power Factor	〃	—	0.01-0.02	0.01-0.02
Electrical Conductivity	—	—	Non Conductor	Non Conductor
FIRE PERFORMANCE				
Flammability Rating	UL-94	—	V-0	V-0, 5VB, 5VA
Flame Spread Index	〃	—	<10	<10
Average Time of Burning	ASTM D635	sec	<5	<5
Average Extent of Burning	〃	mm	<10	<10
Burning Rate	〃	mm/min	Self Extinguishing	Self Extinguishing
Limiting Oxygen Index (LOI)	ASTM D2863	LOI	45	60

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•SI Unit

ITEM	Test Method	SI unit		
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GENERAL				
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Water Absorption % increase 24 hrs@ 73°F(23°C)	ASTM D570	%	0.04	0.04
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Izod Impact, notched @ 73°F (23°C)	ASTM D256	J/m	80	160
THERMAL				
Coefficient of Linear Expansion	ASTM D696	m/m/°C	6.0-8.0x10^{-5}	7.0-8.0x10^{-5}
Coefficient of Thermal Conductivity	ASTM C177	Watt/m/°K	0.17	0.13
Heat Deflection Temperature Under Load (264psi, annealed)	ASTM D648	℃	74	110
Specific Heat	ASTM D2766	J/°K/g	1.1	1.1
ELECTRICAL				
Volume Resistivity	ASTM D257	ohm/cm	>1.0 x 10^{15}	>1.0 x 10^{15}
Dielectric Strength	ASTM D149	volt/mm	>1000	>1000
Dielectric Constant	ASTM D150	—	3	3
Power Factor	〃	—	0.01-0.02	0.01-0.02
Electrical Conductivity	—	—	Non Conductor	Non Conductor
FIRE PERFORMANCE				
Flammability Rating	UL-94	—	V-0	V-0, 5VB, 5VA
Flame Spread Index	〃	—	<10	<10
Average Time of Burning	ASTM D635	sec	<5	<5
Average Extent of Burning	〃	mm	<10	<10
Burning Rate	〃	mm/min	Self Extinguishing	Self Extinguishing
Limiting Oxygen Index (LOI)	ASTM D2863	LOI	45	60

NOTE:

Schedule80 Pipe

Hanjewel Pipe is Manufactured to The Following Standard Specifications

Type	Material (Cell Classification)	Dimensions	Commercial Classification
PVC Schedule 80	ASTM D-1784 (12454)	ASTM D-1785	Type ,Grade 1, PVC 1120
CPVC Schedule 80	ASTM D-1784 (23447)	ASTM F-441	Type ,Grade 1, CPVC 4120

Schedule80 Fittings

Hanjewel Thermoplastic Fittings are manufactured to The Following Standard Specifications

Type		Material (Cell Classification)	Dimensions	Commercial Classification
PVC Schedule 80	Socket-type	ASTM D-1784 (12454)	ASTM D-2467	Type ,Grade 1, PVC 1120
	Threaded-type		ASTM D-2464	
CPVC Schedule 80	Socket-type	ASTM D-1784 (23447)	ASTM F-439	Type ,Grade 1, CPVC 4120
	Threaded-type		ASTM F-437	

HANJEWEL

PVC AND CPVC PIPES

Manufacturer's Product Specification

Scope

This specification sheet covers the manufacturer's requirements for PVC and CPVC pipes in accordance with respective international standards. These pipes meet or exceed the standards set by the American Society for Testing and Materials, the National Sanitation Foundation, British Standards Institute, German Industrial Norms and Japanese Industrial Standards.

PVC and CPVC Materials

Rigid PVC (polyvinyl chloride) and CPVC (chlorinated olyvinyl chloride) used in the manufacture of pipes is Type I, Grade 1 PVC compound, and Type IV, Grade 1 CPVC compound as stated in ASTM D-1784. Raw material used in extrusion shall contain the specified mounts of color pigment, stabilizers, and other additives approved by the National Sanitation Foundation.

Dimensions and Wall Thicknesses

Physical dimensions, wall thickness and tolerances of PVC and CPVC pipes meet the requirements of ASTM, DIN and BS specifications for pipes.

Marking

PVC and CPVC pipes are marked as prescribed in ASTM D-1784 to indicate the manufacturer's name or trademark, size of pipe, material designation, batch number and month of production. There must be clear distinguishing on those products that are PVC and those products that are CPVC. Where there is no restriction of space, wall thicknesses shall also be indicated.

HANJEWEI CANADA PRODUCT MANAGEMENT INC.

LIMITED WARRANTY

Applicable to CANADA PRODUCT MANAGEMENT INC. Plumbing Plastic Pipes, Fittings and Valves. CANADA PRODUCT MANAGEMENT INC. warrants eac CANADA of Products it plumbing plastic fitting (including plumbing valves) to be free from defects in materials and workmanship under designed use and service for a period of five (5) years from the date of purchase. In the event any defect occurs which the owner believes is covered by this Warranty, the owner should immediately contact the nearest CANADA representative, either in writing (by email, fax or letter), or by telephone call. The owner will be instructed to return said pipe, fitting or valve, at the owner's expense to of free the a CANADA PRODUCT MANAGEMENT INC. or an authorized CANADA representative for inspection. In the event said inspection discloses to the satisfaction of CANADA PRODUCT MANAGEMENT INC. that said fitting or valve is defective, a replacement shall be mailed free of charge to the owner. Claims for labor costs and other expenses required to replace such defective product or to repair any damage resulting from the use thereof will not be allowed by CANADA PRODUCT MANAGEMENT INC. Our liability is limited to the price paid for the defective product. CANADA PRODUCT MANAGEMENT INC. will not be bound by any warranty, other than above set forth, unless such warranty is in writing.

TO THE EXTENT PERMITTED BY LAW, THIS WARRANTY SPECIFICALLY EXCLUDES INCIDENTAL AND CONSEQUENTIAL DAMAGES OF EVERY TYPE AND DESCRIPTION RESULTING FROM ANY CLAIMED DEFECT IN MATERIAL OR WORKMANSHIP, INCLUDING BUT NOT LIMITED TO, PERSONAL INJURIES AND PROPERTY DAMAGES. Some Provinces do not allow the exclusion or limitations of incidental or consequential damages, so these limitations may not apply to you. **TO THE EXTENT PERMITTED BY LAW, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION.**

This Warranty gives you specific legal rights, and you may also have other rights which vary from country to country.

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HANJEWEI CANADA PRODUCT MANAGEMENT INC.

LIMITED WARRANTY

Applicable to CANADA PRODUCT MANAGEMENT INC. Plumbing Plastic Pipes, Fittings and Valves. CANADA PRODUCT MANAGEMENT INC. warrants eac CANADA of Products it plumbing plastic fitting (including plumbing valves) to be free from defects in materials and workmanship under designed use and service for a period of five (5) years from the date of purchase. In the event any defect occurs which the owner believes is covered by this Warranty, the owner should immediately contact the nearest CANADA representative, either in writing (by email, fax or letter), or by telephone call. The owner will be instructed to return said pipe, fitting or valve, at the owner's expense to of free the a CANADA PRODUCT MANAGEMENT INC. or an authorized CANADA representative for inspection. In the event said inspection discloses to the satisfaction of CANADA PRODUCT MANAGEMENT INC. that said fitting or valve is defective, a replacement shall be mailed free of charge to the owner. Claims for labor costs and other expenses required to replace such defective product or to repair any damage resulting from the use thereof will not be allowed by CANADA PRODUCT MANAGEMENT INC. Our liability is limited to the price paid for the defective product. CANADA PRODUCT MANAGEMENT INC. will not be bound by any warranty, other than above set forth, unless such warranty is in writing.

TO THE EXTENT PERMITTED BY LAW, THIS WARRANTY SPECIFICALLY EXCLUDES INCIDENTAL AND CONSEQUENTIAL DAMAGES OF EVERY TYPE AND DESCRIPTION RESULTING FROM ANY CLAIMED DEFECT IN MATERIAL OR WORKMANSHIP, INCLUDING BUT NOT LIMITED TO, PERSONAL INJURIES AND PROPERTY DAMAGES. Some Provinces do not allow the exclusion or limitations of incidental or consequential damages, so these limitations may not apply to you. **TO THE EXTENT PERMITTED BY LAW, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION.**

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THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and its Partner
CISQ/IIP S.r.l

Canada HANJEWEL Pipe Stock Co.,Ltd

for the following field of activities
Design development and production of Plastic Pipe and Fitting

which fulfils the requirements of the following standard

ISO 9001:2000

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Rene Wasmer
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CEO of CQM

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ASTM SCH80/40 PVC、CPVC

PVC AND CPVC PRESSURE PIPES



PVC D-1784/1785 Schedule 80 and 40

Nominal Size		Outside Diameter		WALL THICKNESS,WORKING PRESSURE(PSI)					
				PVC SCHEDULE 80			PVC SCHEDULE 40		
in	mm	in	mm	in	mm	psi	mm	in	psi
1/4	6.35	0.540	13.716	0.119	3.023	1130	-	-	-
3/8	9.53	0.675	17.145	0.126	3.200	920	-	-	-
1/2	12.70	0.840	21.336	0.147	3.734	850	0.109	2.769	600
3/4	19.05	1.050	26.670	0.154	3.912	690	0.113	2.870	480
1	25.40	1.315	33.401	0.179	4.547	630	0.133	3.378	450
11/4	31.75	1.660	41.164	0.191	4.851	520	0.140	3.556	370
11/2	38.10	1.900	18.260	0.200	5.080	470	0.145	3.683	330
2	50.80	2.375	60.325	0.218	5.537	400	0.154	3.912	280
21/2	63.50	2.875	73.025	0.276	7.010	420	0.203	5.156	300
3	76.20	3.500	88.900	0.300	7.620	370	0.216	5.486	260
4	101.60	4.500	114.300	0.337	8.560	320	0.237	6.020	220
5	127.00	5.563	141.300	0.375	9.525	290	0.258	6.553	190
6	152.40	6.625	168.275	0.432	10.973	280	0.280	7.112	180
8	203.20	8.625	219.075	0.500	12.700	250	0.322	8.179	160
10	254.00	10.750	273.050	0.593	15.062	230	0.365	9.271	140
12	304.80	12.750	323.850	0.687	17.450	230	0.406	10.312	130
14	355.60	14.000	355.600	0.750	19.050	220	0.438	11.125	130
16	406.40	16.000	406.400	0.843	21.412	220	0.500	12.700	130

Standard Lengths: 10ft(3m),19ft(5.8m),20ft(6m)
Standard Colours: Dark Grey,White
Options: Plain,Bell

CPVC F-441 Schedule 80 and 40

Nominal Size		Outside Diameter		WALL THICKNESS,WORKING PRESSURE(PSI)							
				PVC SCHEDULE 80				PVC SCHEDULE 40			
in	mm	in	mm	in	mm	PSI@73°F	PSI@180°F	in	mm	PSI@73°F	PSI@180°F
1/4	6.35	0.540	13.716	0.119	3.023	1130	283	-	-	-	-
3/8	9.53	0.675	17.145	0.126	3.200	920	230	-	-	-	-
1/2	12.70	0.840	21.336	0.147	3.734	850	213	0.109	2.769	600	150
3/4	19.05	1.050	26.670	0.154	3.912	690	173	0.113	2.870	480	120
1	25.40	1.315	33.401	0.179	4.547	630	158	0.133	3.378	450	113
11/4	31.75	1.660	41.164	0.191	4.851	520	130	0.140	3.556	370	93
11/2	38.10	1.900	18.260	0.200	5.080	470	118	0.145	3.683	330	83
2	50.80	2.375	60.325	0.218	5.537	400	110	0.154	3.912	280	70
21/2	63.50	2.875	73.025	0.276	7.010	420	105	0.203	5.156	300	75
3	76.20	3.500	88.900	0.300	7.620	370	93	0.216	5.486	260	65
4	101.60	4.500	114.300	0.337	8.560	320	80	0.237	6.020	220	55
5	127.00	5.563	141.300	0.375	9.525	290	73	0.258	6.553	190	48
6	152.40	6.625	168.275	0.432	10.973	280	70	0.280	7.112	180	45
8	203.20	8.625	219.075	0.500	12.700	250	63	0.322	8.179	160	40
10	254.00	10.750	273.050	0.593	15.062	230	58	0.365	9.271	140	35
12	304.80	12.750	323.850	0.687	17.450	230	58	0.406	10.312	130	33
14	355.60	14.000	355.600	0.750	19.050	220	55	0.438	11.125	130	33
16	406.40	16.000	406.400	0.843	21.412	220	55	0.500	12.700	130	33

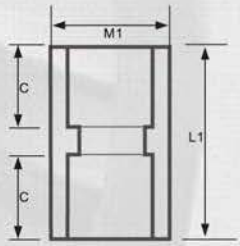
Standard Lengths: 10ft(3m),19ft(5.8m),20ft(6m)
Standard Colours: Light Grey
Options: Plain,Bell

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PVC ASTM SCH80

PVC SCHEDULE 80 FITTINGS

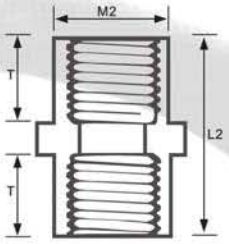
Couplings





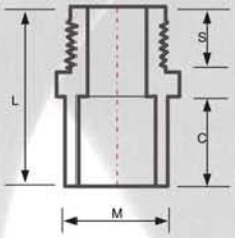
Nom. Pipe Size	Max. O.D. Dim. M1	S801U		
		L1	C	Approx. Wt.(lb)
1/2	30.16	48.42	22.23	0.051
3/4	35.72	54.77	25.80	0.080
1	44.45	61.91	28.97	0.110
1 1/4	53.18	67.47	32.15	0.160
1 1/2	60.33	74.22	35.32	0.220
2	73.42	80.57	38.10	0.310
2 1/2	88.90	93.27	43.66	0.690
3	105.97	102.00	48.02	1.000
4	132.95	121.05	57.94	1.690
6	198.44	160.34	76.20	3.586
8	257.18	238.13	114.30	7.815
10	301.63	366.71	152.40	16.447
12	358.78	415.93	158.75	25.050
14	393.70	533.40	215.90	38.000

Female Couplings



Nom. Pipe Size	Max. O.D. Dim. M2	S801U-1		
		L2	T	Approx. Wt.(lb)
1/2	33.34	40.88	17.07	0.080
3/4	38.10	44.85	18.65	0.092
1	46.04	54.37	23.02	0.140
1 1/4	55.56	57.15	26.99	0.200
1 1/2	63.50	57.15	27.78	0.250
2	76.20	57.15	28.58	0.340
2 1/2	92.08	79.38	37.31	0.690
3	109.54	80.96	38.89	0.940
4	138.91	84.93	39.69	1.380

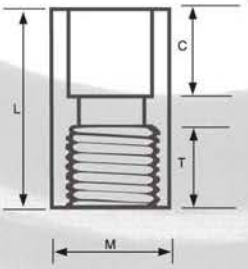
Male Adapters





Nom. Pipe Size	Max. O.D. Dim.M	S802U			
		C	S	L	Approx. Wt.(lb)
1/2	30.16	22.62	19.45	47.63	0.047
3/4	35.72	26.19	21.03	52.78	0.063
1	43.66	28.97	25.00	59.93	0.102

Female Adapters





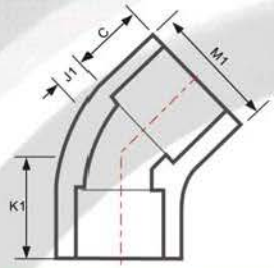
Nom. Pipe Size	Max. O.D. Dim.M	S803U			
		L	C	T	Approx. Wt.(lb)
1/2 x 1/2	30.16	47.63	22.62	17.07	0.047
1/2 x 3/4	30.16	52.78	26.19	18.65	0.063
3/4x 3/4	35.72	59.93	28.97	23.02	0.102

HANJEWEL

PVC ASTM SCH80

PVC SCHEDULE 80 FITTINGS

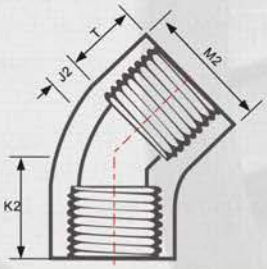
45° Elbows





Nom. Pipe Size	Max. O.D. Dim. M1	S804U			
		K1	C	J1	Approx. Wt.(lb)
1/2	28.58	28.58	22.62	4.76	0.069
3/4	34.93	33.73	25.80	11.11	0.101
1	42.86	35.72	30.16	5.56	0.157
1 1/4	52.39	42.86	32.54	10.32	0.228
1 1/2	58.74	46.83	34.93	11.91	0.305
2	72.23	53.98	38.89	15.08	0.664
2 1/2	92.08	63.10	44.45	18.65	0.956
3	109.54	67.47	47.63	19.84	1.524
4	133.35	92.08	57.15	34.93	2.791
6	192.09	122.24	76.20	45.24	5.614
8	247.65	157.16	101.60	55.56	10.480
10	306.5	223.84	130	93.84	-
12	364	265.11	155.2	109.91	-

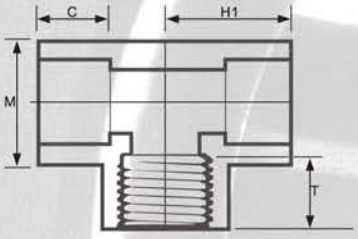
FEMALE 45°



Nom. Pipe Size	Max. O.D. Dim. M2	S804U-1			
		K2	T	J2	Approx. Wt.(lb)
1/2	33.34	22.23	17.46	4.76	0.105
3/4	38.50	28.18	17.46	10.72	0.112
1	46.04	30.16	22.23	7.94	0.286
1 1/4	57.15	44.45	30.16	14.29	0.326
1 1/2	63.50	36.51	23.02	13.49	0.644
2	76.99	47.63	27.78	19.84	0.617
2 1/2	92.08	55.56	37.31	18.26	0.938
3	110.33	61.12	38.89	22.23	1.310
4	138.11	73.03	40.48	32.54	2.190

FEMALE TEES WITH BRASS

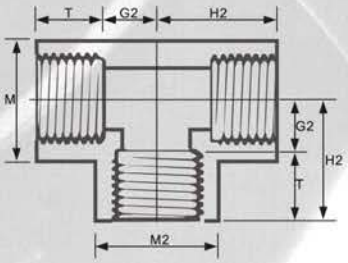
HANJÉWEL





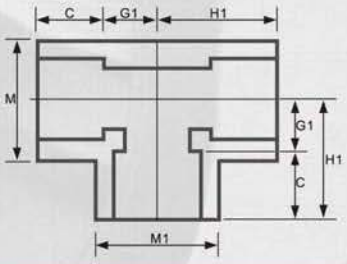
Nominal Size	Max. O.D. Dim. M	S806U			
		T	C	H1	Approx. Wt.(lb)
1/2x1/2	30.56	17.46	22.62	36.12	
1/2x3/4	36.51	17.46	25.80	40.48	
3/4x3/4	44.45	22.23	30.16	46.83	

FEMALE TEES



Nom. Pipe Size	Max. O.D. Dim. M2	S805U-1			
		T	H2	G2	Approx. Wt.(lb)
1/2	33.34	19.05	30.56	11.51	0.143
3/4	38.10	21.43	34.93	13.49	0.194
1	46.83	25.40	39.69	14.29	0.288
1 1/4	56.36	25.40	47.23	21.83	0.558
1 1/2	63.90	25.00	52.78	27.78	0.732
2	76.99	26.59	60.33	33.73	0.930
2 1/2	90.49	36.91	75.41	38.50	1.380
3	109.54	36.51	84.14	47.63	2.296
4	138.11	40.48	98.43	57.94	3.690

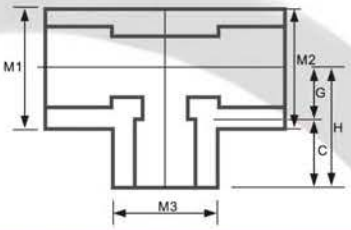
Tees





Nom. Pipe Size	Max. O.D. Dim. M1	S805U			
		C	H1	G1	Approx. Wt.(lb)
1/2	30.56	22.62	36.12	13.49	0.116
3/4	36.51	25.80	40.48	14.68	0.162
1	44.45	28.97	46.83	17.86	0.265
1 1/4	53.98	32.15	54.77	22.62	0.393
1 1/2	60.33	35.32	61.12	25.80	0.522
2	71.44	38.10	70.64	32.54	0.865
2 1/2	91.68	45.24	84.93	39.69	1.500
3	107.16	47.63	95.25	46.04	2.325
4	133.35	57.15	117.48	60.33	3.690
6	192.88	76.20	166.69	90.49	8.875
8	250.83	101.60	215.90	114.30	19.140
10	306.50	130.00	275.00	144.46	-
12	364.00	155.00	330.00	174.63	-

REDUCING TEE

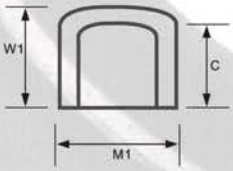


Nom. Pipe Size	Max.O.D.Dim.			GS137U			
	M1	M2	M3	C	H	G	Approx. Wt.(lb)
3/4" x 3/4" x 1/2"	34.93	34.93	30.16	22.23	38.10	15.08	0.150
1" x 1" x 3/4"	44.45	44.45	34.93	26.99	44.45	17.46	0.245
11/2" x 11/2" x 1"	60.33	60.33	44.45	29.37	54.77	25.40	0.455
2" x 2" x 1"	73.03	73.03	44.45	29.37	63.50	34.13	0.585
2" x 2" x 11/2"	73.03	73.03	60.33	35.72	67.47	31.75	0.715
3" x 3" x 2"	101.60	101.60	69.85	38.10	83.34	45.24	1.710
4" x 4" x 3"	128.59	128.59	101.60	47.63	106.36	58.74	3.095
6" x 6" x 4"	192.09	192.09	133.35	57.15	152.40	95.25	7.830
8" x 8" x 6"	247.65	247.65	192.88	79.38	194.47	115.09	16.280

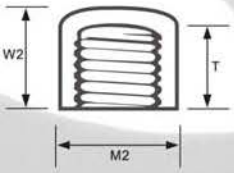
CAPS AND PLUGS



FEMALE CAPS

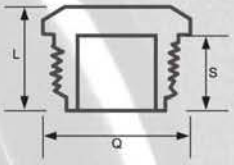


S807U



S807U-1

MALE CAPS



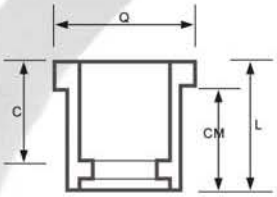
S807U-2

HANJÉWEL

Nom. Pipe Size	S807U				S807U-1				S807U-2			
	M1	C	W1	Approx. Wt.(lb)	M2	T	W2	Approx. Wt.(lb)	Q	L	S	Approx. Wt.(lb)
1/2	30.16	23.02	31.35	0.050	31.75	22.23	5.16	0.050	28.58	24.21	18.26	0.030
3/4	35.72	26.19	34.13	0.080	38.10	22.23	31.75	0.080	34.93	26.19	19.05	0.050
1	43.66	29.37	41.28	0.110	46.04	26.99	40.48	0.116	42.86	30.16	22.62	0.060
1 1/4	52.39	34.13	46.83	0.160	56.75	25.80	38.50	0.140	51.99	36.51	25.40	0.090
1 1/2	60.33	35.72	47.63	0.230	63.10	25.80	39.69	0.200	58.74	36.91	25.80	0.140
2	73.03	38.89	53.98	0.330	76.99	26.59	42.86	0.028	71.44	36.51	25.80	0.190
2 1/2	88.90	44.45	69.85	0.560	97.6313	34.131	65.09	0.660	75.41	51.59	38.10	0.310
3	105.57	48.42	72.63	0.810	110.331	38.497	66.68	0.850	95.25	62.31	48.82	0.500
4	133.35	61.52	88.11	1.440	138.91	40.084	73.03	1.500	115.89	72.23	57.94	0.700
6	192.09	77.79	120.65	2.955	-	-	-	-	-	-	-	-

PVC ASTM SCH80

PVC SCHEDULE 80 FITTINGS

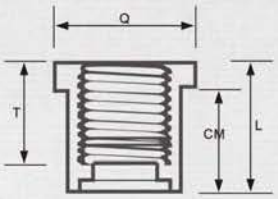


S808U



Reducing Bushings

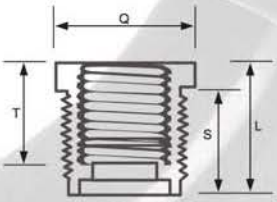
Nom. Pipe Size	S808U				
	Q	C	CM	L	Approx. Wt.(lb)
3/4×1/2	32.15	23.02	25.80	35.32	0.020
1×1/2	41.67	23.02	28.97	38.50	0.059
1×3/4	41.28	26.19	28.58	38.10	0.050
1 1/4×1	26.99	29.37	31.75	41.28	0.060
1 1/2×1	57.15	29.37	34.93	44.45	0.131
1 1/2×1 1/4	57.15	32.54	34.93	44.45	0.060
2×1	71.83	29.37	38.10	47.63	0.210
2×1 1/2	71.44	35.72	38.10	47.63	0.140
2 1/2×2	81.76	38.89	44.45	50.01	0.200
3×2 1/2	95.25	44.45	23.02	53.98	0.310
4×2	123.83	38.10	57.15	66.68	1.000
4×3	123.83	47.63	57.15	67.87	0.897
5X4	130.3	51.2	75.1	92.3	2.35
6×4	187.33	57.15	77.79	95.25	2.380
6x5	187.33	57.15	77.79	95.25	2.37
8×6	238.13	78.58	103.19	116.28	4.000
10×8	273.05	114.30	152.40	168.28	18.560
12×10	323.85	146.05	171.45	190.50	37.660



S808U-1

FEMALE Reducing Bushings

Nom. Pipe Size	S808U-1				
	Q	T	CM	L	Approx. Wt.(lb)
3/4×1/2	34.93	20.24	25.80	33.73	0.050
1×1/2	42.86	21.43	30.16	38.10	0.060
1×3/4	42.86	19.84	30.16	38.10	0.058
1 1/4×1/2	52.39	20.64	31.75	41.28	0.110
1 1/4×3/4	52.39	20.64	31.75	41.28	0.598
1 1/4×1	52.39	25.40	31.75	41.28	0.090
1 1/2×1/2	58.74	21.43	35.72	45.24	0.140
1 1/2×3/4	58.74	21.83	35.32	45.24	0.140
1 1/2×1	58.74	26.19	35.32	44.05	0.130
1 1/2×1 1/4	58.74	26.99	35.32	45.24	0.130
2×1/2	70.64	20.64	38.10	48.42	0.230
2×3/4	71.44	21.03	38.89	48.42	0.220
2×1	71.44	30.16	38.10	48.42	0.220
2×1 1/4	71.44	26.99	38.10	48.42	0.200
2×1 1/2	71.44	26.99	38.89	48.42	0.170
2 1/2×2	80.96	27.78	44.45	49.61	0.220
3×2	98.43	26.99	47.63	53.98	0.450
3×21/2	97.63	36.51	47.63	53.18	0.340



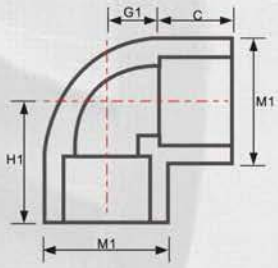
S808U-2

Reducing Bushings F/M

Nom. Pipe Size	S808U-2				
	Q	L	T	S	Approx. Wt.(lb)
3/4×1/2	34.93	25.40	20.24	17.46	0.020
1×1/2	42.86	28.58	19.84	20.64	0.060
1×3/4	42.86	25.80	19.84	20.64	0.050
1 1/4×1/2	52.78	34.93	20.64	25.40	0.090
1 1/4×3/4	52.78	34.93	21.03	25.40	0.080
1 1/4×1	52.39	34.93	26.19	25.40	0.060
1 1/2×3/4	59.13	36.51	25.40	21.43	0.110
1 1/2×1	57.94	35.72	25.40	25.40	0.110
1 1/2×1 1/4	58.74	36.51	31.75	25.40	0.060
2×3/4	70.64	34.93	17.46	26.19	0.165
2×1	71.44	35.72	31.75	25.40	0.170
2×1 1/4	71.44	35.72	31.75	25.40	0.160
2×1 □	71.44	35.72	31.75	25.40	0.139

HANJÉWEL

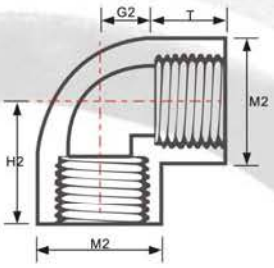
90° Elbows





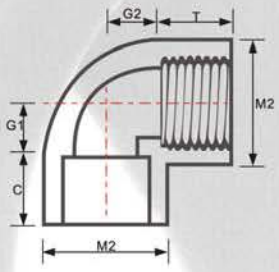
Nom. Pipe Size	Max. O.D. Dim. M1	S809U			
		C	H1	G1	Approx. Wt.(lb)
1/2	31.35	22.62	35.72	13.10	0.091
3/4	36.51	25.80	40.08	14.29	0.127
1	44.45	28.97	46.04	17.07	0.205
1 1/4	53.98	32.54	54.77	22.23	0.315
1 1/2	60.72	35.32	60.72	25.40	0.429
2	73.03	38.89	69.85	30.96	0.556
2 1/2	92.08	45.24	84.14	38.89	1.185
3	109.14	48.42	94.46	46.04	1.861
4	136.53	57.55	117.48	59.93	3.178
6	193.68	76.20	173.04	96.84	7.500
8	247.65	101.60	219.08	117.48	13.750
10	306.50	144.27	288.73	144.46	
12	364.00	165.10	339.73	174.63	

FEMALE 90° Elbows



Nom. Pipe Size	Max. O.D. Dim. M2	S809U-1			
		T	H2	G2	Approx. Wt.(lb)
1/2	33.34	21.43	30.96	9.53	0.092
3/4	38.89	22.23	34.13	11.91	0.124
1	46.83	24.21	41.67	17.46	0.256
1 1/4	55.96	25.40	48.42	23.02	0.449
1 1/2	63.90	25.00	53.18	28.18	0.626
2	78.58	27.78	62.71	34.93	0.767
2 1/2	92.08	36.51	75.80	39.29	1.050
3	110.33	38.89	84.93	46.04	1.942
4	138.11	40.48	102.79	62.31	2.630

FEMALE 90° Elbows





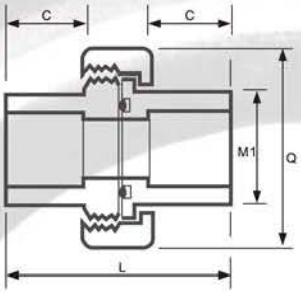
Nom. Pipe Size	Max. O.D. Dim. M2	S810U				
		T	C	G1	G2	Approx. Wt.(lb)
1/2x1/2						
1/2x3/4						
3/4x3/4						

HANJÉWEL

PVC ASTM SCH80

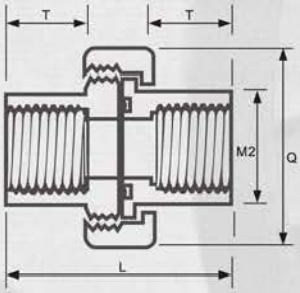
PVC SCHEDULE 80 FITTINGS

Unions(O-Ring Seat)





Female Unions

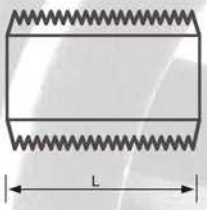


Nom. Pipe Size	Max. O.D. Dim. M1	GS138				Max. O.D. Dim. M2	GS138-1			
		L	C	Q	Approx. Wt.(lb)		L	T	Q	
1/2	30.16	60.33	23.02	50.80	0.155	26.59	57.15	20.64	50.80	0.170
3/4	35.72	65.88	25.40	60.33	0.220	35.72	57.15	21.43	60.33	0.205
1	42.86	73.03	29.37	68.26	0.320	44.45	68.26	26.19	68.26	0.325
1 1/4	53.98	85.73	32.54	78.58	0.475	53.58	73.03	29.77	78.58	0.465
1 1/2	60.33	98.43	35.72	96.84	0.810	61.12	91.28	31.75	96.84	0.820
2	73.03	106.36	38.10	122.24	1.345	74.22	85.73	52.78	122.24	1.380
3	107.16	127.00	47.63	177.80	3.899	108.74	111.13	34.93	177.80	4.000
4		160.00		225.00						

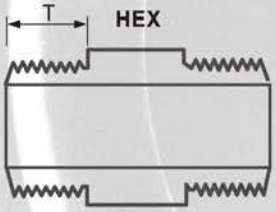
Nipples

HANJÉWEL

CLOSE



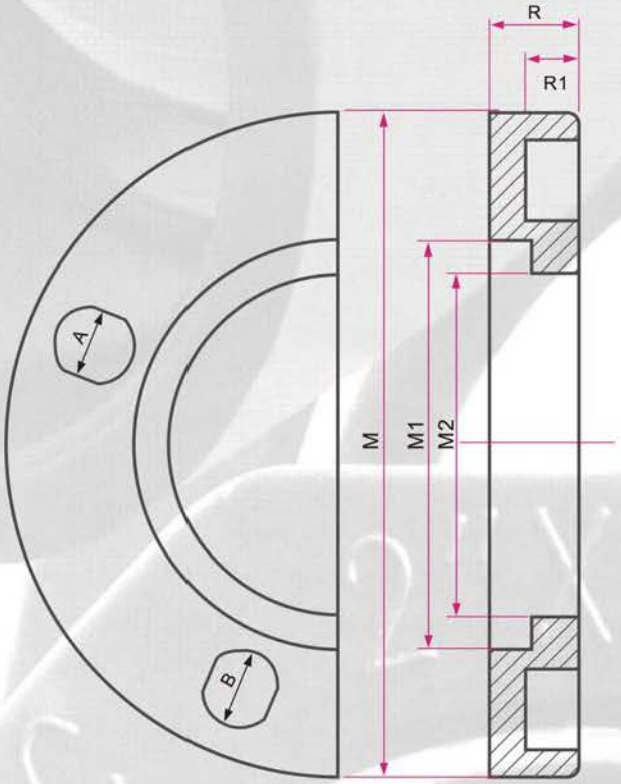


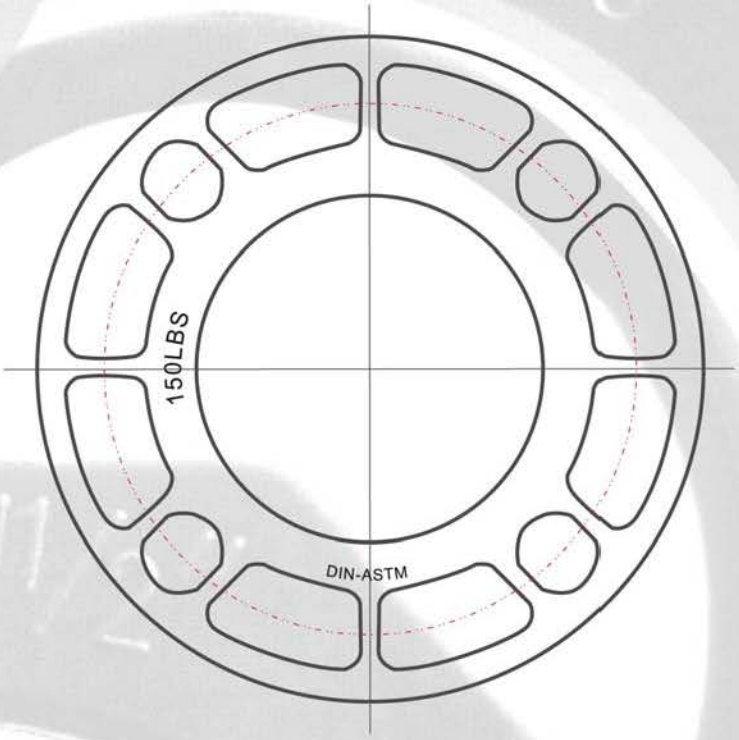


GS139U

Nom. Pipe Size	CLOSE	HEX
		T
1/2		19.45
3/4		21.03
1		25
1 1/4		26.2
1 1/2		27.4
2		27.4
2 1/2		36.5
3		44.8
4		44.8

WTF™ Series Universal Van Stone Backing Rings





GS144U-VS-WTF



HANJEWEL

Nom. Pipe Size	Max. O.D. Dim.M	Dimensions				No. Bolt Holes	Bolt Hole A	Bolt Hole B	Approx. Wt.(lb)
TWO PIECE FLANGES		GS144U-VS-WTF							
		R	R1	M1	M2				
2	151.89	20.07	9.91	90.93	76.20	101.60	19.05	21.34	0.780
2 1/2	180.08	23.88	13.97	108.97	91.95	101.60	19.05	21.34	1.00
3	192.02	25.91	14.98	119.89	107.95	203.20	19.05	25.66	1.67
4	229.11	27.94	20.07	152.91	132.08	203.20	19.05	25.66	2.00
6	283.97	32.00	16.01	208.02	192.02	203.20	22.10	30.22	2.94

NOTES:
Flange bolt hole patterns meet ANSI B16.5 as well as BS 4504.
PVC material meets ASTM Standard D-1784.
All dimensions are in inches unless otherwise specified.
Dimensions are subject to change without notice. Contact your Hydroseal representative for certification.

Rules and Guidelines

Solvent Cement Welding Joints

Joining Equipment and Material

- Cutting Tool
  Saw & Miter Box or Pipe Cutter (Ratchet Type, Wheel Type)
- Pipe deburring & beveling tool, file or knife
- Solvent Cement
  PVC cement for PVC materials, CPVC cement for CPVC materials
- Primer
- Cleaner
- Cotton Rag
- Square
- Scale
- Felt-tip Pen
- Tape Measure
- Brush
- Insertion Tool (6" and above)
- Container (Metal Cans to Hold Cement or Primer)



HANJÉWEL

1. Cutting ①②③④

Pipe ends must be cut square.

Check the pipe end with a square to make sure it has been cut squarely.

Note:

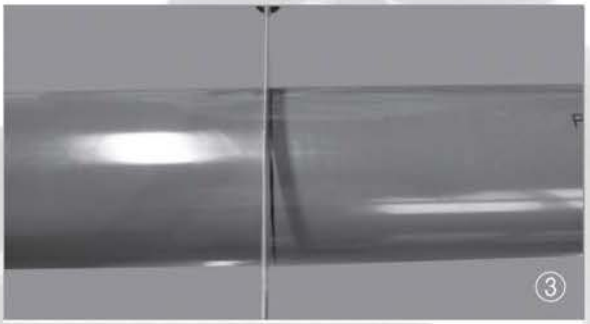
A diagonal cut reduces bonding area in the most effective and critical part of the joint.

Wheel type cutters are not generally recommended for large diameters since they tend to raise flare at the pipe end.

This flare must be removed with a file or deburring tool, as it will scrape the cement away when pipe is inserted into the fitting.







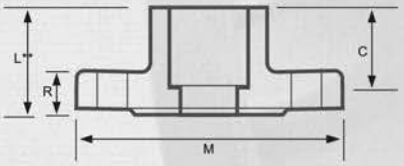


PVC ASTM SCH80

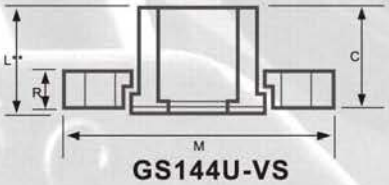
PVC SCHEDULE 80 FITTINGS

Socket Flanges-150Lb.

Nom. Pipe Size	Max. O.D. Dim.M	Dimensions			No. Bolt Holes	Bolt Hole Dia.	Bolt Circle Dia.	Approx. Wt.(lb)
ONE PIECE FLANGES		GS144U						
		L**	C+	R				
1/2	88.90	27.78	23.02	11.91	101.60	15.88	60.33	0.182
3/4	98.43	30.96	26.19	12.70	101.60	15.88	69.85	0.256
1	114.30	34.13	29.37	15.08	101.60	15.88	79.38	0.441
1 1/4	117.48	38.10	32.54	16.67	101.60	15.88	88.90	0.444
1 1/2	127.00	41.28	38.10	19.84	101.60	15.88	98.43	0.574
2	152.40	43.66	38.10	19.84	101.60	19.05	120.65	0.897
2 1/2	177.80	50.80	44.45	23.02	101.60	19.05	139.70	1.374
VAN STONE STYLE FLANGES		GS144U-VS						
		L**	C+	R				
3	190.50	52.39	47.63	23.02	101.60	19.05	152.40	1.88
4	228.60	60.33	63.50	28.71	203.20	19.05	190.50	2.54
6	279.40	80.96	76.20	31.75	203.20	22.23	241.30	3.82
8	342.90	115.89	107.95	38.10	203.20	22.23	298.45	7.486
10	406.40	150.81	157.96	33.34	304.80	25.40	361.95	11.850
12	484.19	192.09	180.98	42.07	304.80	25.40	431.80	18.410



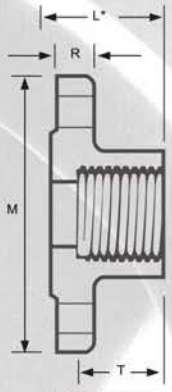
GS144U



GS144U-VS

Threaded Flanges-150Lb.

Nom. Pipe Size	Max. O.D. Dim.M	GS145U			No. Bolt Holes	Bolt Hole Dia.	Bolt Circle Dia.	Approx. Wt.(lb)
		L*	T	R				
1/2	88.90	26.99	19.45	11.91	101.6	15.88	60.33	0.200
3/4	98.43	26.99	20.64	13.49	101.6	15.88	69.85	0.281
1	108.74	30.16	25.00	14.29	101.6	15.88	79.38	0.360
1 1/4	117.48	30.96	26.19	16.67	101.6	15.88	88.90	0.460
1 1/2	127.00	30.96	26.19	18.26	101.6	15.88	98.43	0.583
2	152.40	39.69	26.99	20.64	101.6	19.05	120.65	0.885
2 1/2	177.80	41.28	34.93	23.02	101.6	19.05	139.70	1.374
3	190.50	43.66	37.31	23.02	101.6	19.05	152.40	1.581
4	228.60	46.83	40.48	27.78	203.2	19.05	190.50	2.565



GS145U

Blind Flanges-150Lb.

Nom. Pipe Size	Max. O.D. Dim.M	GS146U		No. Bolt Holes	Bolt Hole Dia.	Bolt Circle Dia.	Approx. Wt.(lb)
		L*	R				
1/2	88.90	13.49	11.91	101.60	15.88	60.33	0.190
3/4	98.43	14.68	13.49	101.60	15.88	69.85	0.270
1	107.95	15.88	14.29	101.60	15.88	79.38	0.360
1 1/4	117.48	18.26	16.67	101.60	15.88	88.90	0.450
1 1/2	127.00	20.64	18.26	101.60	15.88	98.43	0.569
2	152.40	22.23	19.84	101.60	19.05	120.65	0.905
2 1/2	177.80	24.61	23.02	101.60	19.05	139.70	1.440
3	190.50	25.40	23.02	101.60	19.05	152.40	1.539
4	228.60	30.96	27.78	203.20	19.05	190.50	2.653
6	279.40	32.15	28.58	203.20	22.23	241.30	4.227

VAN STONE STYLE FLANGES-GS146-VS

Nom. Pipe Size	Max. O.D. Dim.M	GS146U-VS		No. Bolt Holes	Bolt Hole Dia.	Bolt Circle Dia.	Approx. Wt.(lb)
		L*	R				
8	342.90	49.21	39.69	203.20	22.23	298.45	6.941



GS146U



GS146U-VS

HANJEWEL

Rules and Guidelines

2. Deburring ⑤

All burrs, chips, filings, etc., should be removed from both around the pipe before joining.

Use a knife, deburring tool or a half-round coarse file.

All pipe ends should be beveled from 45 degrees.

Note:

Failure to chamfer the edge of the pipe may remove cement from the fitting socket, causing the joint to leak.



3. Inspection, Cleaning ⑥⑦

Visually inspect the inside of the pipe and fitting sockets and remove all dirt, grease or moisture with a clean dry rag.

Check pipes and fittings possible damage such as splits or cracks and replace if necessary.





4. Test Dry Fit of the Joint

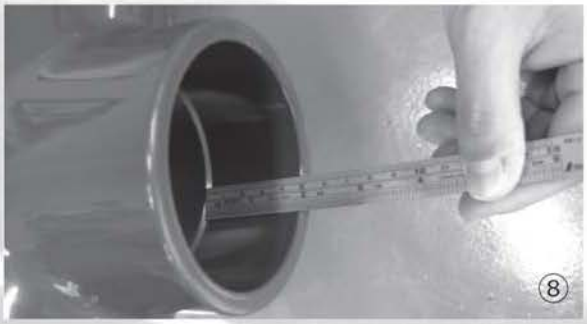
Check pipe and fittings for dry fit before cementing.

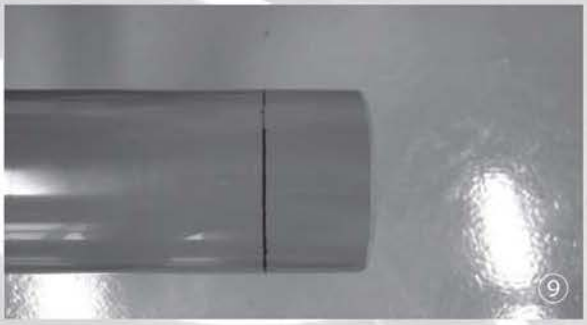
The pipe should be inserted to the fitting easily about 1/3 to 2/3 of the socket depth.

5. Depth-Of-Entry Mark ⑧⑨

Measure the socket depth of the fitting and mark this distance on the pipe O.D.

This reference mark can be used when joining to ensure the pipe is completely bottomed into the fitting during assembly.





6. Priming ⑩⑪

This process is necessary to penetrate and soften both pipe and fitting socket surfaces for cementing process.

Apply primer to the surface of the pipe and fitting socket with a natural bristle brush.

Move quickly without hesitation to the cementing procedure while surfaces are still wet with primer.





Recommended Brush Size for Primer and Cement Application

Nominal Pipe Size	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12
Brush Width	1/2	1	1	1	1-1/2	1-1/2	1-1/2 to 2	1-1/2 to 2-1/2	2 to 3	3	3 to 5	4 to 6	6 to 8	6 to 8

* Use Only Natural Bristle

7. Application of Solvent Cement⑫⑬

Apply the solvent cement evenly and quickly around the outside of the pipe at a width a little greater than the depth of the fitting socket while the primer is still wet.

Apply a light coat of cement evenly around the inside of the fitting socket. Avoid puddling.

Apply a second coat of cement to the pipe end.

NOTE:

Read all warnings on primer and cement cans.





8. Joint Assembly ⑭

Work quickly, insert the pipe into the fitting socket bottom with a one-quarter turn to evenly distribute the cement.

Do not continue to rotate the pipe after it has reached the bottom of the fitting socket.

A good joint will have sufficient cement to make a bead all the way around the outside of the fitting hub.

Hold the pipe and fitting together for a minimum of 30 seconds to make sure the pipe does not move or push out of the socket.



9. Cleanup ⑮

Remove all excess cement from around the pipe and fitting with a dry cotton rag while the cement is still soft.



PVC HEAVY DUTY GRAY CEMENT TECHNICAL SPECIFICATION

Job Name _____ Item # _____
Location _____
Engineer _____ Contractor _____
PO # _____ Tag _____
Representative _____

SPECIFICATIONS

- Heavy-bodied gray cement for use on all schedules and classes PVC pipe and fitting up to 12" diameter with interference fit, up to 18" for non-pressure.
- Lo-V.O.C. Solvent Cement meets California South Coast Air Quality Management District (SCAQMD) 1168/316A or BAAQMD Method 40 and various environmental requirements.
- Thick formula fills gaps in large diameter pipe and fitting joints.

APPLICATION / USES

- Recommended for potable water, pressure pipe, conduit and DWV.

PROPERTIES

VOC
Maximum VOC per SCAQMD 1168/316A or BAAQMD Method 40: 510 g/L

CHEMICAL PROPERTIES	
Appearance	Gray Liquid
Viscosity	Min. 1600° cps @ 73° F ± 2° F
Density	7.86 ± 0.2 lbs/gallon
Shelf Life	3 Years from Mfg. Date

SET TIME / CURE TIME	
30° F to 50° F	6 – 7 minutes
50° F to 70° F	4 – 5 minutes
70° F to 90° F	1 – 3 minutes



ASTM Standard D2564, NSF Standard 61 for PW, DWV and Sewer Waste, IAPMO Listed

PRODUCT NUMBER	SIZE	DESCRIPTION	CTN. QTY
31093	4 oz.	PVC Heavy Duty Gray Cement	24
31094	8 oz.	PVC Heavy Duty Gray Cement	24
31095	16 oz.	PVC Heavy Duty Gray Cement	24
311105	32 oz.	PVC Heavy Duty Gray Cement	12
31118	Gallon	PVC Heavy Duty Gray Cement - Wide Mouth	6

§ Compliant with LEED Requirements. Solvent cements may be specified under the LEED v4 EQ for Low-Emitting Materials to obtain points

PVC HEAVY DUTY GRAY CEMENT TECHNICAL SPECIFICATION

DIRECTIONS

Store and use at temperatures between 40°F and 110°F.

- At temperatures outside of this range, special care must be taken to make good joints.

Stir or shake before using; if jelly-like, don't use. Do not thin

1. Pipe ends must be cut square, deburred and chamfered.
2. Check interference fit of pipe and fitting. Pipe should easily go 1/3 to 2/3 of the way into the fitting. If pipe bottoms inside the fitting hub without interference, proper fusion may not be achieved.
3. Use a suitable applicator that is at least 1/2 the size of the pipe diameter. For larger size pipe systems use a natural bristle brush or roller.
4. Clean pipe and fitting with a pipe cleaner or rag.
5. Prime pipe with a listed primer. Apply primer inside the fitting hub and then to the pipe end. Re-dip the dauber and prime the fitting a second time.
6. While primer is still wet, apply liberal coat of cement on pipe to the depth of the fitting hub, leave no uncoated surface. Apply a thin coat of cement to inside of fitting, avoid puddling of cement. Puddling can cause weakening and premature failure of pipe or fitting. Apply a second coat of cement to the pipe.
7. Assemble parts QUICKLY. Cement must be fluid.
8. Push pipe FULLY into fitting using a 1/4 turning motion until pipe bottoms.
9. Hold pipe and fitting together for 30 seconds to prevent pipe push-out - longer at low temperatures. Wipe off excess.
10. Allow 15 minutes for good handling strength.
11. Allow correct cure times to pass before the plumbing system is tested.
    - Cure times are calculated based on pipe materials, pipe size, pressure and temperature of fluids passing through the pipes, humidity, ambient temperatures and the cement used for the application.
    - If you are unsure of the correct cure times for your application, please reach out to our customer service department for assistance (800) 321-9532

DO NOT TEST WITH AIR OR COMPRESSED GAS.

§ Compliant with LEED Requirements. Solvent cements may be specified under the LEED v4 EQ for Low-Emitting Materials to obtain points

PRECAUTIONS

Read all information carefully before using this product.

DANGER!: HIGHLY FLAMMABLE LIQUID AND VAPOR • CAUSES SKIN IRRITATION • CAUSES SERIOUS EYE IRRITATION • HARMFUL IF SWALLOWED. MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS • MAY CAUSE DROWSINESS OR DIZZINESS • MAY CAUSE RESPIRATORY IRRITATION • CONTAINS A CHEMICAL CLASSIFIED BY THE US EPA AS A SUSPECTED POSSIBLE CARCINOGEN • READ ENTIRE LABEL CAREFULLY. KEEP OUT OF REACH OF CHILDREN.

Prevention: Keep away from heat, sparks, open flames or hot surfaces. No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Ground container and receiving equipment. Use explosion-proof electrical, ventilating, lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye-protection, and face protection. Wear a NIOSH approved respirator for organic solvents. Vapors may accumulate in low places and may ignite explosively. Long term over exposure to solvents may cause damage to the brain, nervous system, reproductive system, respiratory system, mucous membranes, liver and kidneys. Repeated exposure to solvents may cause skin dryness or cracking.

Response: Specific treatment (see below).

EMERGENCY/FIRST AID: CALL 1-877-740-5015 FOR INSTRUCTIONS.

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Rinse mouth. This product may be aspirated into the lungs and cause chemical pneumonitis, a potentially fatal condition. If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention. If ON SKIN: Rinse skin with water/shower. Take off immediately all contaminated clothing. If INHALED: Remove person to fresh air and keep comfortable for breathing. Call POISON CENTER/doctor if you feel unwell. If medical advice is needed, have product container or label at hand.

FIRE: Use dry chemical, foam, or carbon dioxide extinguisher. Water spray may be applied to reduce potential vapors or for cooling. Burning liquid extinguished with water will float and may re-ignite on surface of water.

SPILLS: Remove all sources of ignition and ventilate area. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with absorbent material. Put absorbent material in covered, labeled metal containers. Dispose of contents/container in accordance with local regulations. Store in a well-ventilated space. Store locked up.

PVC HEAVY DUTY CLEAR CEMENT TECHNICAL SPECIFICATION

Job Name _____ Item # _____
Location _____
Engineer _____ Contractor _____
PO # _____ Tag _____
Representative _____

SPECIFICATIONS

- Heavy Bodied Clear cement for use on all schedules and classes of PVC pipe and fittings up to 12" with interference fit, 18" for DWV applications.
- Lo VOC Solvent Cement that meets California South Coast Air Quality Management Districts (SCAQMD) 1168/316A or BAAQMD Method 40 requirements.
- Thick Formula fills gaps in large diameter pipe and fitting joints.

APPLICATION / USES

- Recommended for potable water, pressure pipe, conduit and DWV applications.

PROPERTIES

VOC
Maximum VOC per SCAQMD 1168/316A or BAAQMD Method 40: 510 g/L

CHEMICAL PROPERTIES	
Appearance	Clear Liquid
Viscosity	Min. 1600° cps @ 73° F ± 2° F
Density	7.86 ± 0.2 lbs/gallon
Shelf Life	3 Years from Mfg. Date

SET TIME / CURE TIME	
30° F to 50° F	4 – 5 minutes
50° F to 70° F	3 – 4 minutes
70° F to 90° F	1 – 2 minutes



GREENGUARD GOLD · UPC · NSF PW-DWV-SW · LoVOC SCAQMD 1168/316A COMPLIANT

ASTM Standard D2564, NSF Standard 61 for PW, DWV and Sewer Waste, IAPMO Listed

PRODUCT NUMBER	SIZE	DESCRIPTION	CTN. QTY
30850	4 oz.	PVC Heavy Duty Clear Cement	24
30863	8 oz.	PVC Heavy Duty Clear Cement	24
30876	16 oz.	PVC Heavy Duty Clear Cement	24
31008	32 oz.	PVC Heavy Duty Clear Cement	12
31011	Gallon	PVC Heavy Duty Clear Cement - Wide Mouth Can	6

§ Compliant with LEED Requirements. Solvent cements may be specified under the LEED v4 EQ for Low-Emitting Materials to obtain points

PVC HEAVY DUTY CLEAR CEMENT TECHNICAL SPECIFICATION

DIRECTIONS

Store and use at temperatures between 40°F and 110°F.

- At temperatures outside of this range, special care must be taken to make good joints.

Stir or shake before using; if jelly-like, don't use. Do not thin

1. Pipe ends must be cut square, deburred and chamfered.
2. Check interference fit of pipe and fitting. Pipe should easily go 1/3 to 2/3 of the way into the fitting. If pipe bottoms inside the fitting hub without interference, proper fusion may not be achieved.
3. Use a suitable applicator that is at least 1/2 the size of the pipe diameter. For larger size pipe systems use a natural bristle brush or roller.
4. Clean pipe and fitting with a pipe cleaner or rag.
5. Prime pipe with a listed primer. Apply primer inside the fitting hub and then to the pipe end. Re-dip the dauber and prime the fitting a second time.
6. While primer is still wet, apply liberal coat of cement on pipe to the depth of the fitting hub, leave no uncoated surface. Apply a thin coat of cement to inside of fitting, avoid puddling of cement. Puddling can cause weakening and premature failure of pipe or fitting. Apply a second coat of cement to the pipe.
7. Assemble parts QUICKLY. Cement must be fluid.
8. Push pipe FULLY into fitting using a 1/4 turning motion until pipe bottoms.
9. Hold pipe and fitting together for 30 seconds to prevent pipe push-out - longer at low temperatures. Wipe off excess.
10. Allow 15 minutes for good handling strength.
11. Allow correct cure times to pass before the plumbing system is tested.
    - Cure times are calculated based on pipe materials, pipe size, pressure and temperature of fluids passing through the pipes, humidity, ambient temperatures and the cement used for the application.
    - If you are unsure of the correct cure times for your application, please reach out to our customer service department for assistance (800) 321-9532

DO NOT TEST WITH AIR OR COMPRESSED GAS.

§ Compliant with LEED Requirements. Solvent cements may be specified under the LEED v4 EQ for Low-Emitting Materials to obtain points

PRECAUTIONS

Read all information carefully before using this product.

DANGER!: HIGHLY FLAMMABLE LIQUID AND VAPOR • CAUSES SKIN IRRITATION • CAUSES SERIOUS EYE IRRITATION • HARMFUL IF SWALLOWED. MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS • MAY CAUSE DROWSINESS OR DIZZINESS • MAY CAUSE RESPIRATORY IRRITATION • CONTAINS A CHEMICAL CLASSIFIED BY THE US EPA AS A SUSPECTED POSSIBLE CARCINOGEN • READ ENTIRE LABEL CAREFULLY. KEEP OUT OF REACH OF CHILDREN.

Prevention: Keep away from heat, sparks, open flames or hot surfaces. No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Ground container and receiving equipment. Use explosion-proof electrical, ventilating, lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye-protection, and face protection. Wear a NIOSH approved respirator for organic solvents. Vapors may accumulate in low places and may ignite explosively. Long term over exposure to solvents may cause damage to the brain, nervous system, reproductive system, respiratory system, mucous membranes, liver and kidneys. Repeated exposure to solvents may cause skin dryness or cracking.

Response: Specific treatment (see below).

EMERGENCY/FIRST AID: CALL 1-877-740-5015 FOR INSTRUCTIONS.

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Rinse mouth. This product may be aspirated into the lungs and cause chemical pneumonitis, a potentially fatal condition. If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention. If ON SKIN: Rinse skin with water/shower. Take off immediately all contaminated clothing. If INHALED: Remove person to fresh air and keep comfortable for breathing. Call POISON CENTER/doctor if you feel unwell. If medical advice is needed, have product container or label at hand.

FIRE: Use dry chemical, foam, or carbon dioxide extinguisher. Water spray may be applied to reduce potential vapors or for cooling. Burning liquid extinguished with water will float and may re-ignite on surface of water.

SPILLS: Remove all sources of ignition and ventilate area. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with absorbent material. Put absorbent material in covered, labeled metal containers. Dispose of contents/container in accordance with local regulations. Store in a well-ventilated space. Store locked up.

Technical Specification

Purple Primer – NSF Listed

Description

- Purple-tinted aggressive primer for use on PVC and CPVC pipe and fittings.
- Lo-V.O.C. Solvent Cement meets California South Coast Air Quality Management District (SCAQMD) 1168/316A or BAAQMD Method 40 and various environmental requirements.
- Removes surface dirt, grease and grime as well as softens the pipe surface to allow a fast, secure solvent weld.
- For use in areas where plumbing code calls for verification that a primer has been used.
- N SF and IAPMO Listed.
- Meets ASTM F656.



Listings

NSF Standard 61 for PW, DWV and Sewer Waste

IAPMO Listed

Maximum VOC per SCAQMD 1168/316A or BAAQMD Method 40: **550 g/L**

INGREDIENTS (CAS Number)

Acetone (67-64-1), Cyclohexanone (108-94-4), Methyl Ethyl Ketone (78-93-3), Red Dye (4477-76-6) Violet Dye (81-48-1), Tetrahydrofuran (109-99-9)

MSDS Number: 1402E

Product Number	Size	Qty	Wgt	Product Number	Size	Qty	Wgt
30755	4 oz.	24	8 lbs.	307553	4 oz.	48	8 lbs.
30756	8 oz.	24	14 lbs.	307563	8 oz.	36	14 lbs.
30757	16 oz.	24	25 lbs.	307573	16 oz.	10	25 lbs.
30758	32 oz.	12	24 lbs.	307583	32 oz.	6	24 lbs.
30759	Gallon	6	46 lbs.				

CHEMICAL PROPERTIES

Appearance	Purple Liquid
Density	6.97 ± 0.2 lbs/gallon
Shelf Life	3 Years from Mfg. Date

Precautions

Read all information carefully before using this product.

DANGER!: CAUSES SERIOUS EYE IRRITATION. HARMFUL IF INHALED. MAY CAUSE DROWSINESS OR DIZZINESS. MAY CAUSE RESPIRATORY IRRITATION. REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING. Long term overexposure to solvents may cause damage to the brain, nervous system, reproductive system, respiratory system, mucous membranes, liver and kidneys. Contains a chemical classified by the US EPA as a suspected possible carcinogen. KEEP OUT OF REACH OF CHILDREN.

PRECAUTIONS: Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Use explosion-proof electrical/ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear a NIOSH-approved respirator for organic solvents. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Vapors may accumulate in low places and may ignite explosively. Keep container tightly closed and cool. Wear protective gloves and eye protection. Wash thoroughly after handling. Do not eat or drink while using this product.

EMERGENCY/FIRST AID: CALL 1-877-740-5015 FOR INSTRUCTIONS.
IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Rinse mouth. This product may be aspirated into the lungs and cause chemical pneumonitis, a potentially fatal condition. If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention. If ON SKIN: Rinse skin with water/shower. Take off immediately all contaminated clothing. If INHALED: Remove person to fresh air and keep comfortable for breathing. Call POISON CENTER/doctor if you feel unwell. If medical advice is needed, have product container or label at hand. FIRE: Use dry chemical, foam, or carbon dioxide extinguisher. Water spray may be applied to reduce potential vapors or for cooling. Burning liquid extinguished with water will _oat and may re-ignite on surface of water. SPILLS: Remove all sources of ignition and ventilate area. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with absorbent material. Put absorbent material in covered, labeled metal containers. Dispose of contents/ container in accordance with local regulations. Store in a well-ventilated space. Store locked up.

Directions for Use

Store and use at temperatures between -15°F and 110°F. At temperatures outside of this range, special care must be taken to prepare good joints and prevent exposure to solvents. Stir or shake before using; if jelly-like, don't use. Do not thin.

Handle with care! Will stain most materials and surfaces.

1. Cut pipe ends square, chamfer and clean pipe ends.
2. Check dry fit of pipe and fitting. Pipe should easily go 1/3 of the way into the fitting. If pipe bottoms, it should be snug.
3. Use a suitable applicator at least 1/2 the size of the pipe diameter. For larger size pipe systems use a natural bristle brush or roller.
4. Apply thoroughly to inside of the fitting socket and to the outside surface of the pipe to the depth of the fitting. Apply a second coat of primer to fitting socket.
5. While primer is still wet use an appropriate solvent cement for the pipe being joined. Follow application instructions from cement can.

DO NOT TEST WITH AIR.

Revision Date: 3/15/2013