CROWN® FIRESHIELD CPVC

WORLD CLASS CPVC PIPES & FITTINGS

"ENGINEERED FOR FIRE SAFETY"

Partnership with SEKISUI

Made from UL CERTIFIED COMPOUND

CERTIFICATION INTERNATIONAL ISO 9001:2015

ISO 9001:2015 CERTIFIED COMPANY

CERTIFIED Product Quality

PAB

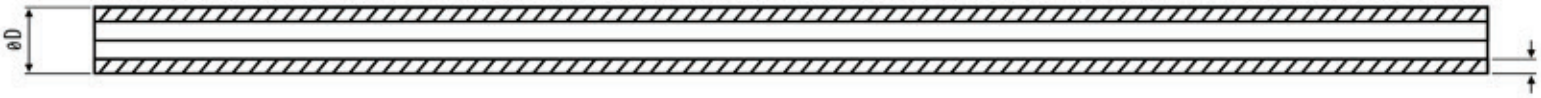
PSE

CROWN® FIRESHIELD CPVC

Flammability

CROWN FIRESHIELD CPVC is suitable for wet, automatic fire sprinkler systems due to its excellent balance of properties such as lightweight, exceptional corrosion resistance, low friction loss, and easy installation. It is unique in offering outstanding resistance to fire and low smoke generation qualities.

Nominal Size		Outside Diameter (OD)				Wall Thickness (T)				Allowable Water Pressure Rating at 73°F / 22.7°C
		Avarage		Tolerance		Minimum		Tolerance		
in	mm	mm	mm	mm	mm	in	mm	in	mm	
1″	25	1.315	33.4	+0.005	0.13	0.097	2.46	+0.02	0.51	315 PSI (22.22 kg/cm²)
1-1/4″	32	1.660	42.2	+0.005	0.13	0.123	3.12	+0.02	0.51	
1-1/2″	40	1.900	48.2	+0.006	0.15	0.141	3.58	+0.02	0.51	
2″	50	2.375	60.3	+0.006	0.15	0.176	4.47	+0.021	0.53	
2-1/2″	65	2.875	73.0	+0.007	0.18	0.213	5.41	+0.026	0.66	
3″	80	3.500	88.9	+0.008	0.20	0.259	6.58	+0.031	0.79	



Surface roughness constant for other piping material are given below:

$$f=0.2083\left(\frac{100}{C}\right)^{1.85}\frac{g\ 1.852}{d\ 4.8655}$$

Where f = friction head in feet of water per 100 feet of pipe
d = inside diameter of pipe in inches
g = flow rate in gallons per minute
c = pipe surface roughness constant

Constant (C)	Type of Pipe
150	CPVC Pipe, new-40 Years
130 - 140	Steel/Cast Iron Pipe, New
125	Steel Pipe, old
120	Cast Iron, 4-12 years old
110	Galvanized Steel/Cast Iron 13-20 Years
60 - 80	Cast Iron, Worn/Pitted

CROWN® FIRESHIELD CPVC FITTINGS

Equal Tee

Size	
25mm	32mm
40mm	50mm
65mm	80mm

Elbow

Size	
25mm	32mm
40mm	50mm
65mm	80mm

Coupling

Size	
25mm	32mm
40mm	50mm
65mm	80mm

Reducer

Size	
32X25mm	40X25mm
40X32mm	50X25mm
50X40mm	65X40mm
65X50mm	80X40mm
80X50mm	80X65mm

Reducing Tee

Size		
32X25mm	40X25mm	40X32mm
50X25mm	50X32mm	50X40mm
65X25mm	65X32mm	65X40mm
65X50mm	80X25mm	80X40mm
80X50mm	80X65mm	

45° Elbow

Size	
25mm	32mm
40mm	50mm
65mm	80mm

Valve Socket (PT)

Size	
25mm	32mm
40mm	50mm
65mm	80mm

Valve Socket (for connecting SP Joint)

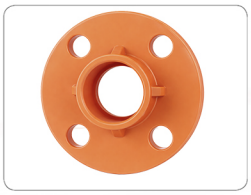
Size
25mm

Insert M Valve Socket(STS)

Size	
25mm	50mm

Insert M Valve Socket (for connecting SP Joint)

Size
25mm



Flange

Size	
40mm	50mm
65mm	80mm

Gasket

Size	
40mm	50mm
65mm	80mm

M,F Valve Socket, F Elbow

Size
25mm

Fittings for PT

Size	
Socket	25mmX1/2" (15mm)
Elbow	25mmX1/2" (15mm)
Tee	25mmX1/2" (15mm)

Cap

Size	
25mm	32mm
40mm	50mm

CROWN Premium 600 Solvent

Size	
500g	1kg
USA, KOR	USA, KOR

CROWN FIRESHIELD CPVC Pipes and Fittings are precisely designed for fire sprinkler systems, using a specialty thermoplastic identified chemically as post-chlorinated polyvinyl chloride (CPVC). This material offers distinct advantages in sprinkler installations, including superior hydraulics when contrasted with traditional metal systems, simplified joining procedures, expanded hanger spacing in comparison to other thermoplastics, and straightforward assembly. CROWN FIRESHIELD CPVC Pipes and fittings are manufactured by CROWN Asia Chemicals Corporation, which has 37 years of excellence in producing world-class quality products.

Application

- Fire Sprinkler Systems: CPVC pipes and fittings are widely used in fire sprinkler systems for offices, high-rise buildings, condominiums, hotels, hospitals, churches, and schools.
- Residential Plumbing Installations for both hot and cold water supply lines, providing reliability and longevity
- Industrial Piping Systems for transporting a wide range of chemicals and fluids.
- HVAC (Heating, Ventilation, and Air Conditioning) Systems suitable for both hot and cold water distribution, offering thermal resistance and energy efficiency.
- Aquariums, Water Parks, and underground water pressure piping systems due to their resistance to corrosion from chlorinated water and their ability to handle high temperatures.

Characteristics of CROWN FIRESHIELD CPVC plumbing material

CPVC (Chlorinated Polyvinyl Chloride) pipe is a heat-resistant rigid PVC pipe that utilizes the excellent chemical resistance, corrosion resistance, and workability of Polyvinyl Chloride. It substantially enhances thermal resistance, effectively addressing a previously identified weakness.

• Corrosion resistance and hygiene

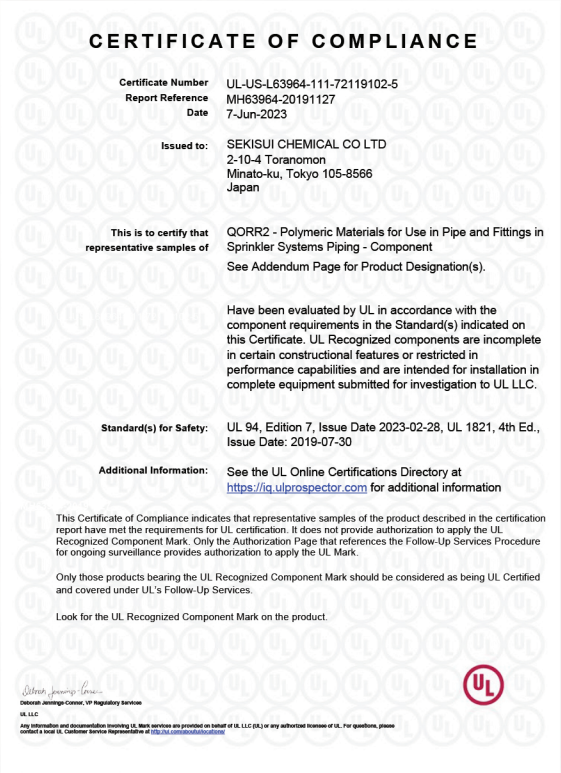
1. CROWN FIRESHIELD CPVC resists corrosion and scale buildup, ensuring rust-free pipes and uninterrupted flow, even in harsh chemical environments like acids, alkalis, salts, and halogens.
2. CROWN FIRESHIELD CPVC materials and bonding agents are safe for humans and the environment.
3. CROWN FIRESHIELD CPVC's antimicrobial properties prevent bacterial growth in the piping system.

• Self-extinguishing

1. FIRESHIELD CPVC self-extinguishes upon exposure to flames, requiring more than three times the normal oxygen level for combustion.
2. When heated, it does not spread flames; rather, it undergoes a process where its surface turns into carbon.
3. FIRESHIELD CPVC produces lower levels of smoke toxicity compared to ordinary building materials, verified by combustion tests conducted by Pittsburgh University and the California Institute for Environmental Studies.

Benefits of CROWN FIRESHIELD CPVC Plumbing System

Materials	Limited Oxygen Rate	Remarks
CPVC	60	oxygen content in the air 21%
Cotton	16-17	
PE	17	
PP	18	
PS	18	
PB	18	



CERTIFICATE OF COMPLIANCE

Certificate Number: UL-US-L63964-111-72119102-5
Report Reference: MH63964-20191127
Date: 7-Jun-2023

Issued to: SEKISUI CHEMICAL CO LTD
2-10-4 Toranomon
Minato-ku, Tokyo 105-8566
Japan

This is to certify that representative samples of: QORR2 - Polymeric Materials for Use in Pipe and Fittings in Sprinkler Systems Piping - Component

See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

Standard(s) for Safety: UL 94, Edition 7, Issue Date 2023-02-28, UL 1821, 4th Ed., Issue Date: 2019-07-30

Additional Information: See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Recognized Component Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Deborah Jennings-Conner, VP Regulatory Services
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at http://ul.com/aboutul/offices/

QUALITY PRODUCTS MANUFACTURED BY:

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