



K NEHRUMANI ELECTRICALS



FIRE^{PRO}

CPVC PIPING FOR
AUTOMATIC FIRE SPRINKLERS

PRODUCT CATALOGUE





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ABOUT **FIRE**PRO®

Astral Fire Pro pipes and fittings are designed specifically for fire sprinkler system. They are made from a special thermoplastic known chemically as Chlorinated Polyvinyl Chloride (CPVC).

Astral Fire Pro pipes and fittings provide unique advantages in sprinkler installations including superior hydraulics, ease of joining, increased hanger spacing in comparison to other thermoplastics and ease of assembly.

Astral Fire Pro is the new industry standard in automatic fire sprinkler piping system. Astral Fire Pro CPVC pipes and fittings are fully approved for use in all light and ordinary hazardous rooms or otherwise light hazardous applications as per NFPA 13, in both new and retrofit construction, such as:

- High-rise buildings (including apartments and hotels)
- Schools and Institutions
- One and Two family dwellings

SYSTEM BENEFITS:

- No pre-cutting and expensive fabrication required
- Easily connected to other sprinkler piping system
- Flexibility in the piping for greater ease of installation
- Resistant to rust, scale and foreign contaminant build up, Inexpensive tools required for installation
- Easy repairing or modification on site
- Designed for a 50 year life expectancy

KEY PROPERTIES



IGNITION RESISTANCE

Astral Fire Pro CPVC has a flash ignition temperature of 480°C which is the lowest temperature at which sufficient combustible gas is evolved that can be ignited by a small external flame. Many other ordinary combustibles, such as wood, ignite at 260°C or less. Accordingly, Astral Fire Pro system cannot be the ignition source of a fire.



LOW FRICTION LOSS

With a Hazen-Williams friction coefficient of $C=150$, Astral Fire Pro's smooth interior surface offers lower friction loss than metal systems, enables to use smaller pipe diameters and save on material costs.



FLAMMABILITY

Astral Fire Pro CPVC is ideal for wet automatic fire sprinkler system due to its outstanding balance of properties such as light weight, excellent corrosion resistance, low friction loss and ease of fabrication. Astral Fire Pro CPVC uniquely offers outstanding resistance to fire and low smoke generation qualities. Because of these features, Astral Fire Pro system can be used in plenum spaces as defined by NFPA 90A, the National Standard for the Installation of Air Conditioning and Ventilating Systems.



FLAME SPREAD/ SMOKE GENERATION

Astral Fire Pro CPVC material is evaluated for the flame spread and smoke generation characteristics.



BURNING RESISTANCE

Astral Fire Pro CPVC will not sustain burning. It must be forced to burn due to its very high Limiting Oxygen Index (LOI) of 60. LOI is the percentage of oxygen needed in an atmosphere to support combustion. Since earth's atmosphere is only 21% oxygen, Astral Fire Pro CPVC will not burn unless a flame is constantly applied and will stop burning when the ignition source is removed.



TEMPERATURE/ PRESSURE RATING

Astral Fire Pro pipes and fittings ($\frac{3}{4}$ " - 3" (20 - 80 mm)) are rated for continuous service of 175 psi (1207 KPa) at 150°F (65°C). Astral Fire Pro pipes and fittings are suitable for use in areas where ambient temperatures are within the range of 35°F (2°C) to 150°F (66°C).



HEAT OF COMBUSTION

Astral Fire Pro CPVC has a significantly lower heat of combustion at 7,700 BTU's/lb, compared to Douglas fir at 9,040 BTU's/lb, and polypropylene at nearly 20,000 BTU's/lb. Materials with a high heat of combustion perpetuate a combustible mixture which ignites creating more heat and the burning process becomes self-sustaining.



 **ASTRAL[®] PIPES**



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