

**MEGA
BRANDS**
ACCELERATOR



**ALFA
green**
solutions

PPR SYSTEM FOR FIRE-FIGHTING SPRINKLER AND HYDRANTS SYSTEMS

ALFAIDRO
FASER PIPE AND FITTINGS FOR SPRINKLER SYSTEMS
Nofire



Alfaidro NOFIRE represents the innovation for firefighting security, by being **the alternative in thermoplastics to metal systems** in the active protection area and more specifically in the wet pipe automatic sprinkler systems.

It stands out for its **easy installation** and handling thanks to its reduced weight - up to 80% compared to the metal pipe – the total absence of corrosion both inside and outside, **no clogging of sprinklers**, no leakage due to the welding technique, time and maintenance cost saving.

The **Alfaidro NOFIRE** system includes a **FASER pipe** made of **PP-RCT** with flame-retardant additive and reinforced by an intermediate layer of special fibers, and PP-RCT fittings; it meets high standards of mechanical and aging resistance and it is classified to fire reaction - in accordance to the **UNI EN 13501-1 - as B-s1-d0**.

Its use is approved in environments where the fire risk class is:

- Low Hazard (LH) or Ordinary Hazard (OH) as defined by UNI EN 12845
- Light Hazard (LH) according to NFPA 13, 13R and 13D standards
- HC-1 according to the FM 1635 standard.

It can be installed both in new and pre-existing systems and, by using the weld saddles, it is possible to realize end-center and end-side arrays typical of sprinkler systems in a simple and fast way.



The **Alfaidro NOFIRE** range has passed rigorous fire resistance tests carried out by national and international laboratories and it is classified:

- Class B, s1, d0 according to EN 13501-1 (equivalent to a class 1 according to DM 15/03/2005);
- Class B1 according to DIN 4102-1.

In addition, it is approved for the fire-fighting systems:



FGBOU VPO Akademia
GPS MCS - Russia



U.S.A



AbP - Germany



Agencia de Protección Contra Incendios

Cuba

Further certifications are in progress.

Alfaidro NOFIRE range is also suitable for the conveyance of hot and cold drinking water in buildings that require fire resistance such as public buildings, hotels, vessels, caravans, shops, hospitals, schools, museums and private buildings.

HOW DOES IT WORK

According to the **UNI EN 12845** (design, installation and maintenance reference regulation for the fire sprinkler systems) "An automatic sprinkler system is designed to detect a fire and extinguish it with water in its early stages or hold the fire in check so that extinguishment can be completed by other means".

The sprinklers to use with the **ALFAIDRO NOFIRE** system are the ones with red **glass bulb** and they have to be certified: normal activation is at 155 °F (rapid response). When the hot smoke flow reaches the sprinkler head and the activation temperature, it opens and starts sprinkling water to the underneath area.

The **ALFAIDRO NOFIRE** system guarantees the water supply to the sprinkler at the pressure and flow conditions required by the plant and for the minimum duration prescribed by the reference standards, according to **UNI EN 12845**:

- 30 minutes for LH activities
- 60 minutes for OH activity



Benefits



Comparative Installation Time



Jointing methods	Bonding	Grooving/threading	Polyfusion Welding
Needed Workers	1	Minimum 2	1
Average installation Time for one assembly	10÷30 minutes	10÷20 minutes	30 seconds÷2 minutes

PIPES

Alfaldro **NOFIRE** pipes are manufactured with the innovative composite **FASER** technology: the internal and external layers are made of PP-RCT, a 3rd-generation polymer that provides high mechanical and aging resistance; the intermediate layer in PPFV provides dimensional stability, which allows the use of a reduced number of clamping elements during the installation.



SDR 7,3

DN	Outside diameter	Nominal wall thickness	Internal diameters	Water Content	Weight
	mm - inch	inch	inch	USgal/ft	lb/ft
1/2"	20 - 0.79	0.110	0.567	0.013	0.101
3/4"	25 - 0.98	0.138	0.709	0.020	0.157
1"	32 - 1.26	0.173	0.913	0.034	0.253
1 1/4"	40 - 1.57	0.217	1.141	0.053	0.393
1 1/2"	50 - 1.97	0.272	1.425	0.083	0.611
2"	63 - 2.48	0.339	1.803	0.133	0.961
2 1/2"	75 - 2.95	0.406	2.142	0.187	1.368
3"	90 - 3.54	0.484	2.575	0.270	1.959
4"	110 - 4.33	0.594	3.142	0.403	2.934
5"	125 - 4.92	0.673	3.575	0.521	3.775
6"	160 - 6.30	0.862	4.575	0.853	6.170

SDR 11

DN	Outside diameter	Nominal wall thickness	Internal diameters	Water Content	Weight
	mm - inch	inch	inch	USgal/ft	lb/ft
1"	32 - 1.26	0.114	1.031	0.043	0.173
1 1/4"	40 - 1.57	0.146	1.283	0.067	0.274
1 1/2"	50 - 1.97	0.181	1.606	0.105	0.425
2"	63 - 2.48	0.228	2.024	0.167	0.671
2 1/2"	75 - 2.95	0.268	2.417	0.238	0.936
3"	90 - 3.54	0.323	2.898	0.342	1.354
4"	110 - 4.33	0.394	3.543	0.512	2.007
5"	125 - 4.92	0.449	4.024	0.660	2.602
6"	160 - 6.30	0.575	5.150	1.081	4.254

FITTINGS



The entire range of **Alfaldro NOFIRE** fittings is subject to a very strict quality control during the entire process. In addition to the socket welding fittings, several other types of joints are available:

- **Transition fittings** with metal inserts to connect the new system to former installations or to other threaded metal elements;
- **Saddle fittings** that can be welded directly to the external part of the pipe suitable for practical and reliable end-center and end-side arrays;
- **PACV joints and grooved fittings Alfarapid**, available from size \varnothing 1 1/2" to \varnothing 6", to connect to pipes and grooved systems (*Victaulic type*);
- **PACV flanges (PN16 from size \varnothing 1 1/2" to 4" and PN10 from size 5" to 6") and flange adaptors** to connect the system to other flanged systems;
- **Compact PPR-CT valves** with chrome plated brass ball and pin, available from size \varnothing 1/2" (20mm) to \varnothing 6" (160mm). Thanks to the one-piece body and the welding technique, they grant high safety parameters (*the ball and gasket cannot move from their seats, even under the most extreme operating conditions*).

TECHNICAL FEATURES

WORKING TEMPERATURE & WORKING PRESSURE

PIPES

SDR 11

68 °F - 223,3 PSI
140 °F - 111,7 PSI
158 °F - 73,9 PSI

SDR 7,3

68 °F - 423,5 PSI
140 °F - 223,3 PSI
158 °F - 190 PSI

FITTINGS

SDR 6

68 °F - 448,2 PSI
140 °F - 224,8 PSI
158 °F - 147,9 PSI

SDR 5

68 °F - 577,2 PSI
140 °F - 282,8 PSI
158 °F - 185,6 PSI

RANGE OF PERMISSIBLE TEMPERATURE

MIN= 14 °F MAX: +203 °F

COEFFICIENT OF LINEAR THERMAL EXPANSION

2.367 x 10⁻⁶ in/ft °F

THERMAL CONDUCTIVITY

1.67 BTU • in/hr • ft² • °F

Reference Standard



REFERENCE STANDARDS

Alfidro NOFIRE pipes and fittings are manufactured in compliance with the following standards:

- UNI EN ISO 15874-1, -2, -5, -7** Plastics piping systems for hot and cold water installations (PP);
 - UNI EN ISO 21003:** Multilayer piping systems for hot and cold water installations inside buildings;
 - DIN 8077-78:** Polypropylene (PP) pipes – PP-H, PP-B, PP-R, PPRCT;
 - DIN 16962:** Pipe fittings and joint assemblies for polypropylene pressure pipes;
 - DIN 16837:** Multilayer pipes - Plastics-Multilayer pipes - General quality requirements and testing;
 - BS 4991:** Specification for propylene copolymer pressure pipe;
 - ASTM F238:** Standard specification for pressure rated polypropylene (PP) piping systems; The welding reference standards for Alfidro NOFIRE system are;
 - DVS 2207:** Welding of Thermoplastics;
 - DVS 2208:** Machines and Equipment for Welding Thermoplastics;
- Alfidro NOFIRE system is suitable for firefighting installations according to the following standards;
- UNI EN 12845:** Fixed firefighting systems. Automatic sprinkler systems. Design, installation and maintenance.
 - UNI EN ISO 13501:** Fire classification of construction products and building elements.
 - DIN 4102:** Fire behaviour of building materials and elements – Part 1: Classification of building materials - Requirements and testing;
 - NFPA 13:** Installation of Fire Sprinkler Systems for requirements on the use of plastic fire sprinkler piping;
 - FM 1635:** Approval Standard for Plastic Pipe and Fittings for Automatic Sprinkler Systems;
 - UL 1821:** Standard for Thermoplastic Sprinkler Pipe and Fittings for Fire Protection Service;
 - VdS 2344:** Procedure for the testing, approval, certification and conformity assessment of products and systems for fire protection and security technologies;
 - LPS 1260:** Issue 3.1- Plastic pipe and fittings for use in automatic sprinkler systems.





UNI EN ISO 9001: 2008
UNI EN ISO 14001: 2004



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