

AQUAFILMTM ARN-1

AFFF—AR LOW VISCOSITY FOAM CONCENTRATE 1X1 (-20°C)

1. DESCRIPTION.- AQUAFILM ARN is a new brand of low viscosity AFFF foam compounds to fight polar and non polar fuel fires. The resistance against the typical destructive effect of the polar liquids on foams is achieved thanks to the nature of the special surfactants used in the composition, avoiding the use of polymers that increase the viscosity and make difficult the dosage at low temperatures; in this manner, the concentrates have newtonian behaviour.

2. USE.- The foam should be applied with low and medium expansion foam equipment (nozzles, monitors, foam chambers, etc); on hydrocarbon fires it can be applied also with non-aspirating devices (water spray nozzles and standard sprinklers). AQUAFILM ARN-1 is well adapted for use in CAFS also. This foam is intended for special applications where conventional foams fail; it can be used fighting fires or covering spillages of chemicals to avoid the emission of toxic, harmful, flammable, etc, vapours, even the acids. The foam has a very good resistance to all kind of chemicals.

3. DOSAGE.- The dilution rate is 1% in fresh or sea water for use on all kind of fuels: hydrocarbon and polar solvents. It may be proportioned with standard equipment (in-line inductors, bladder tanks, pumps, balanced pressure systems, etc) and special purpose ones for AFFF agents (e.g. Hydrofoam nozzles). Its low viscosity facilitates the dosage at low temperatures, until -20°C.

4. SPECIFICATIONS.- The typical characteristics of the concentrate and foam solutions are:

CONCENTRATE		FOAM SOLUTION	
Specific gravity @ 20°C	1.10	Dilution rate	1%
pH @ 20°C	8.0—9.0	Surface tension at 20°C, mN/m (Demineralised water)	17.5±1.0
Viscosity, cone and plate, mPa.s @ 20°C	25	Interfacial tension with cyclohexane at 20°C, mN/m	3.5 ±1.0
@ -15 °C	90	Low Expansion Foam (EN-1568-3)	
Freezing point, °C	< -20	Foam Expansion Index	8
Lowest temperature for use, °C	-17.8	25% Drainage Time, min:s	3:00


5. PACKAGING.- The product is supplied in 20 or 25 L PE prismatic containers, 200 L PE cylindrical drums and 1.000 L IBC containers.

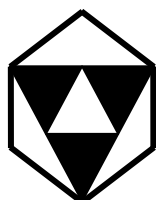
6. PERFORMANCE.- The foam achieves a very quick knock-down of fires, even with low application rates, and shows an excellent burn-back resistance. The product has **approval certifications** according to **EN-1568-3:2008 (class IB)** and **EN-1568-4:2008 (class IB)**. The product has passed all the official tests to get the **UL-162 listing** with portable and fixed systems and it is **pending** for the final certificate. The product will be listed for hydrocarbons with type III application @ 0.10 gal/min-sq.ft and type II for alcohols @ 0.15 gal/min-sq.ft.

Standard	EN-1568-3:2008		EN-1568-4:2008		UL-162	
	Fuel	Heptane	Acetone	IPA	Heptane	IPA
Application	Forceful	Gentle	Gentle	Gentle	Type III	Type II
Dilution rate, %	1	1	1	1	1	1
Water	fresh	fresh	fresh	fresh	fresh	fresh
Extinction	2:08	1:47	1:23	0:56	1:32	1:17
Burnback 25%	-	15:45	11:01	11:32	Pass	Pass
Classification	IB		IB		Listing Pending	Listing Pending

7. STORAGE.- The concentrate should be stored at temperatures between -17.8°C (UL requirement) and +50°C, preferably in the original containers or in stainless steel or epoxy lined tanks.

8. CAUTIONS.- Foams should not be used in contact with electrical equipments, nor with chemical products that can react with water. It is recommended to avoid the contact of the foam concentrate with the skin. In case of eye splashes wash with plenty of water. In case of ingestion do not induce vomit, drink water and take medical advice.

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