

*Project:* Fire Extinguishing Media to  
EN 1568-3 & EN 1568-4  
Specifications

*Certificate Number:* MCH 0232741/03 A1

*Client:* Dafo Fomtec AB  
PO Box 683  
13526 Tyresö, Sweden

*Office:* Liverpool

*Client's Order  
Number:* -

*Date:* 20 May 2002

*Order Status:* Complete

*Inspection Dates*

*First:* 29.04.02.

*Final:* 17.05.02.

*This certificate is issued to* Dafo Fomtec AB, to certify that at their request, the undersigned Surveyor to this Society did select samples of FOMTEC ARC 3x6, for the purpose of confirming that the properties were within the technical specifications and were in accordance with EN 1568-3 and EN 1568-4.

The necessary tests were witnessed by the Surveyor and the results obtained were all within the limits given in the manufacturers specification, and the requirements of EN 1568-3 and EN 1568-4.

**Tolerance to freezing and thawing (Annex E)**

No stratification or non-homogeneity could be detected in the sample.

**Sediment (Annex C)**

Before ageing of the sample = < 0.1%

After ageing of the sample = < 0.1%

(24 hours at 60°C)

**Viscosity at 20°C** = 1000 mPa.s (Brookfield)

**pH of the concentrate at 20°C** = 7.0

**Surface Tension, Interfacial Tension and spreading coefficient (Annex F)**

	<u>Surface Tension</u> Dynes/cm	<u>Interfacial Tension</u> Dynes/cm	<u>Spreading Coefficient</u> Dynes/cm
Before conditioning	18.8	4.1	+2.1
After conditioning at - -30°C for 24 hrs followed by 48 hrs at 20°C (four cycles)			
Top Sample	18.4	3.9	+2.7
Bottom Sample	18.5	4.0	+2.5
After conditioning at - 60°C for 7 days followed by 2 days at 20°C			
Top Sample	18.7	4.2	+2.1
Bottom Sample	18.8	4.0	+2.2

**Expansion and Drainage (Annex G)**

Before conditioning of the sample	Fresh		Sea	
Concentration =	3%	6%	3%	6%
Expansion =	7.6	8.6	7.1	8.4
25% Drainage time =	10'00"	15'15"	8'31"	13'05"
After conditioning of the sample in accordance with Annex E	Fresh		Sea	
(Concentration 3%) Expansion =	Top	Bottom	Top	Bottom
25% Drainage time =	7.3	7.5	7.1	7.0
(Concentration 6%) Expansion =	10'20"	10'01"	8'12"	8'09"
25% Drainage time =	8.6	8.7	8.5	8.6
	13'40"	13'05"	12'30"	12'45"

**Fire Tests (Annex H)****A) Forceful Application in accordance with EN 1568-3**

Fire tests carried out in accordance with Annex H1 and H3 using:-

Fresh water and sea water

Preburn time	60 seconds
Foam application	180 seconds
Wait after foam application	300 seconds
Fire tray	144B (4.5m <sup>2</sup> )
Fuel	Commercial Heptane on water bed
Foam Concentration	3%

	Fresh Water		Sea Water
90% Control	50"	50"	50"
99% Control	106"	80"	70"
100% Extinction	132"	151"	125"
25% Burnback time	11'50"	11'39"	10'03"
Air Temp	16.0 °C	16.0 °C	16.0 °C
Water Temp	17.0 °C	17.0 °C	17.0 °C
Fuel Temp	16.0 °C	16.0 °C	16.0 °C
Foam Temp	16.0 °C	16.0 °C	16.0 °C
Wind Speed (m/sec.)	< 1.0	< 1.0	< 1.0

**Fire Tests (Annex H) in accordance with EN 1568-4**

Fire Tests carried out in accordance with Annex H using:-

Fresh water and sea water

Preburn time	120 seconds
Foam application	180 seconds
Wait after foam application	300 seconds
Fire tray	55B (1.73m <sup>2</sup> )
Fuel	Acetone
Foam Concentration	6%

	Fresh Water	Sea Water	
90% Control	30"	55"	65"
99% Control	38"	65"	80"
100% Extinction	50"	75"	102"
25% Burnback time	17'04"	9'58"	6'05"
Air Temp	16.0 °C	12.0 °C	18.0 °C
Water Temp	16.0 °C	16.0 °C	16.0 °C
Fuel Temp	16.0 °C	16.0 °C	16.0 °C
Foam Temp	16.0 °C	16.0 °C	16.0 °C
Wind Speed (m/sec.)	< 1.0	< 1.0	< 1.0

From the above test results it is confirmed that FOMTEC ARC 3x6 is a film forming foam concentrate suitable for use with fresh and sea water. FOMTEC ARC 3x6 has tolerance to freezing and thawing (Annex E) and is suitable for storage above -30°C. The fire extinguishing performance class is 1 and the burnback resistance level is A using fresh and sea water for Hydrocarbon fuel, and the fire extinguishing performance class is 1 and the burnback resistance level is C using fresh and sea water for Polar solvent fuel.

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Performance level achieved:

Extinguishment class 1 for Hydrocarbon & Polar fuel

Burnback resistance level A for Hydrocarbon fuel and level C for Polar fuel.



M. Williams  
Surveyor to Lloyds Register

