



Project: [\[Link\]](#)

Client: **Foamtech Antifire Company**

Office: **Hardwar**

Client's Order Number: **Request For Services signed by Client**

Date: **30 January 2014**

Order Status: **Complete**

Inspection Dates

First: **06 January 2014**

Final: **30 January 2014**

This certificate is issued to **FOAMTECH ANTIFIRE COMPANY, Hardwar** to certify that at their request, the undersigned surveyor to **Lloyds Register Asia** did select samples of **Foamer Brand High Expansion Foam 3 %** from Batch no. **HX/EN/ISO/03/01/12/13** for the purpose of confirming that the properties were in accordance with **EN 1568-2: 2001**

Details of tests :

Temperature conditioning of foam concentrates as per Clause E.3 (Annex E of EN 1568-2) :

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

Sediment (Annex C of EN 1568-2) :

Before ageing of the sample : 0.02%
After ageing of the sample : 0.03%
(24 hours at 60°C)

Viscosity at 20°C : 2.58cSt

pH of the concentrate at 20°C : 7.46

Surface Tension, Interfacial Tension and Spreading coefficient (Annex F of EN 1568-2) By Ring method:

	<u>Surface Tension</u> (Dynes/cm)	<u>Interfacial Tension</u> (Dynes/cm)	<u>Spreading coefficient</u> (Dynes/cm)
Before conditioning:	: 18.9	3.4	3.7
After High temperature conditioning at 60°C for 7 days followed by 2 days at 20°C:			
Top Sample	: 19.0	3.5	3.5
Bottom Sample	: 19.1	3.4	3.5

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Expansion and Drainage (Annex G of EN 1568-2):

Before conditioning of the sample	Potable Water	Sea water
Expansion ratio	: 523	510
25% drainage time	: 3 min 38 seconds	3 min 00 seconds
50% drainage time	: 6 min 12 seconds	5 min 22 seconds

After conditioning of the sample in accordance with **Annex E of EN 1568-2:**

	Potable water		Sea water	
	Top	Bottom	Top	Bottom
Expansion ratio	: 510	530	502	504
25% drainage time	: 3 min 35seconds	3 min 32 seconds	2 min 58 seconds	3 min 07 seconds
50% drainage time	: 6 min 16 seconds	6 min 08 seconds	5 min 07 seconds	5 min 16 seconds

Fire Tests (Annex H of EN 1568-2) - Outdoor Test:

Fire tests carried out in accordance with Annex H1 and H2 using Potable water and Sea water:-

Preburn time	: 45 seconds
Foam application	: 120 seconds
Fire Tray	: 1.73m ²
Fuel	: Commercial Heptane on water bed.

	Potable water	Sea water
90% control time	: 70 seconds	71 seconds
99% control time	: 78 seconds	76 seconds
Extinction time	: 85 seconds	82 seconds
Air Temp	: 16°C	15°C
Water Temp	: 16°C	16°C
Fuel Temp	: 15°C	16°C
Foam Temp	: 16°C	16°C
Wind Speed (m/sec)	: 0.1	0.1

Conclusion: The mentioned tests were witnessed by the Surveyor and the results obtained were observed within the limits of the requirements of EN 1568-2: 2001.

Remarks: This Certificate stands valid till 30 January 2016.




GAGANDEEP SINGH
 Surveyor to Lloyd's Register Asia

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