



VICLAB GENERAL

TEST REPORT

Sample As Received	Reference: General	Last Revised: 25/03/2015
Report No: 150287		Order #:
Date Received: 2/02/2015		Date Completed: 25/03/2015
Client: P.J. BOWERS		Telephone: +61 7 5593 8277
Address: Factory 13, Central Drive, Burleigh Heads Gold Coast QLD 4220		Submitted By: Peter Bowers

LIFE BOAT MATERIAL	Method: MSC 81(70): 1998
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Sample Description: Neolon (NRP40) Buoyancy Foam.

Sample No	Clause	Property	Requirement	B	C	Buoyancy (N)	Result Buoyancy loss	Area Cm	Compliance
1-6	2.7.1	Temperature Cycling +65°C/-30°C	10 Cycles	-	-	-	Completed	-	-
1	2.7.2	Dimension	Before					29.8 x 29.5 x 10.1 29.8 x 29.1 x 10.1	Compliance
			After						
			Before	14,800	6,100	85.26	Nil + 1.69%		Compliance
			After	14,400	5,550	88.20			
	2.7.3	No Internal change of structure	-	-	-	-	Nil		Compliance
6	2.7.2	Dimension	Before					29.6 x 29.6 x 9.9 29.7 x 29.3 x 10	Compliance
			After						
			Before	14,800	6,100	85.26	Nil + 2.24%		Compliance
			After	14,400	5,500	87.22			
	2.7.3	No Internal change of structure	-	-	-	-	Nil	-	Compliance
2	2.7.2	Dimension	Before					30.4 x 29.3 x 10 30.3 x 28.8 x 10	Compliance
			After						
			Before	14,800	5,950	86.73	Nil + 1.66%		Compliance
			After	14,400	5,400	88.20			
3	2.7.2	Dimension	Before					30 x 30 x 9.8 29.7 x 30 x 10	Compliance
			After						
			Before	14,800	5,900	87.22	Nil + 1.11%		Compliance
			After	14,400	5,400	88.20			
4	2.7.2	Dimension	Before					29.9 x 29.8 x 10 29.6 x 29.7 x 10.2	Compliance
			After						
			Before	14,800	5,900	87.22	Nil + 1.11%		Compliance
			After	14,400	5,400	88.20			
5	2.7.2	Dimension	Before					29.6 x 29.5 x 10 29.2 x 29.7 x 10	Compliance
			After						
			Before	14,800	6,050	85.75	Nil + 1.12%		Compliance
			After	14,400	5,550	86.73			



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Sample No	Condition	Clause	Property	Result 1	Result 2	B in grams	C in grams	Buoyancy (N)	Result 3 and 4 Buoyancy % Loss Day 1	Result 3 and 4 Buoyancy % Loss Day 7	Result 5	Compliance
2,3,4,5,7,8		2.7.5	1.25m/head of water 7 days									-
8	As received Before After Before After	2.7.8	Support out of water  Buoyancy  Buoyancy Damage	988.1	1015.3	14,400 14,300 14,400 14,700	5,550 5,700 5,550 6,100	86.73 84.28 86.73 84.28	-2.82%	-2.82%	Nil	- Compliance Compliance Compliance
7	As received Before After Before After	2.7.8	Support out of water  Buoyancy  Buoyancy Damage	997.1	998.0	14,400 14,300 14,400 14,700	5,150 5,300 5,150 5,750	90.65 88.20 90.65 87.71	-2.70%	-3.24%	Nil	Compliance Compliance Compliance
2	Temperature Cycling Before After Before After	2.7.8	Support out of water  Buoyancy  Buoyancy Damage	999.0	996.8	14,800 14,300 14,800 14,700	5,950 5,550 5,950 6,000	86.73 85.75 86.73 85.26	-1.12%	-1.69%	Nil	Compliance Compliance Compliance
5	Temperature Cycling Before After Before After	2.7.8	Support out of water  Buoyancy  Buoyancy Damage	985.7	979.1	14,800 14,300 14,800 14,700	6,050 5,750 6,050 6,150	85.75 83.79 85.75 83.79	-2.28%	-2.28%	Nil	Compliance Compliance Compliance
3	Temperature Cycling and Hi Octane Petroleum Before After Before After	2.7.8	Support out of water  Buoyancy  Buoyancy  Damage	949.0	979.9	14,800 14,700 14,800 14,400	5,900 5,550 5,900 6,100	87.22 89.67 87.22 81.34	+2.73%	-6.74%	Nil	- Compliance Compliance Compliance
4	Temperature Cycling and Hi Octane Petroleum Before After Before After	2.7.8	Support out of water  Buoyancy  Buoyancy  Damage	961.4	978.0	14,800 14,700 14,800 14,400	5,900 5,550 5,900 6,050	87.22 89.67 87.22 81.83	+2.73%	-6.17%	Nil	- Compliance Compliance Compliance

Results table:

- 1/ Mass in Kg support at day one in Kg/m<sup>3</sup>
- 2/ Mass in Kg support at day seven in Kg/m<sup>3</sup>
- 3/ Reduction of buoyancy ≤ 5% Samples 2,5,7 and 8.
- 4/ Reduction of buoyancy ≤ 16% Samples 3 and 4
- 5/ No (a)shrinkage, (b)cracking, (c)swelling, (d)dissolution or (e)mechanical change.

Material fire-retardancy test

Method: MSC 81(70): 1998

Clause	Requirement	Result as received		Compliance
6.2.1	The hull and canopy material should be flame tested to determine its fire-retarding characteristics by placing a test specimen in a flame. After removal from the flame the burning time and burning distance should be measured and should be to the satisfaction of the Administration.	Burning time = 1 second	Burning distance = 50mm	Compliance



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Sample No	Clause	Property	Requirement	B in grams	C in grams	Buoyancy (N)	Buoyancy % Loss	Area in Cm	Compliance
9	6.2.3	14 days under 100mm head of Crude Oil	Dimensions Before After  Buoyancy ≤ 5% Loss Before After  No-Shrinkage -Cracking -Swelling -Dissolution -Mechanical Change	   14,400 14,700	   5,500 5,800	   87.22 87.22	   0%	29.8 x 29.2 x 10.2 29.9 x 29.2 x 10.3	- -  - Compliance  Compliance Compliance Compliance Compliance
10	6.2.3	14 days under 100mm head of Crude Oil	Dimensions Before After  Buoyancy ≤ 5% Loss Before After  No-Shrinkage -Cracking -Swelling -Dissolution -Mechanical Change	   14,400 14,700	   5,650 5,750	   85.75 87.71	   +2.23%	29.5 x 29.6 x 9.9 29.8 x 30 x 10	- -  - Compliance  Compliance Compliance Compliance Compliance
14	6.2.3	14 days under 100mm head of Marine Fuel Oil (Grade C)	Dimensions Before After  Buoyancy ≤ 5% Loss Before After  No-Shrinkage -Cracking -Swelling -Dissolution -Mechanical Change	   14,400 14,700	   5,550 5,750	   86.73 87.71	   +1.11%	29.4 x 30.1 x 10 29.5 x 30.3 x 9.8	- -  - Compliance  Compliance Compliance Compliance Compliance
18	6.2.3	14 days under 100mm head of Marine Fuel Oil (Grade C)	Dimensions Before After  Buoyancy ≤ 5% Loss Before After  No-Shrinkage -Cracking -Swelling -Dissolution -Mechanical Change	   14,400 14,700	   5,600 5,800	   86.24 87.22	   +1.12%	29.5 x 30.1 x 10 30 x 29.9 x 10	- -  - Compliance  Compliance Compliance Compliance Compliance



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Sample No	Clause	Property	Requirement	B in grams	C in grams	Buoyancy (N)	Buoyancy % Loss	Area in Cm	Compliance
11	6.2.3	14 days under 100mm head of Diesel Oil	Dimensions Before After  Buoyancy ≤ 5% Loss Before After  No-Shrinkage -Cracking -Swelling -Dissolution -Mechanical Change	14,400 14,700	5,450 5,900	87.71 86.24	-1.67%	29.9 x 29.5 x 10.1 30.2 x 30 x 10	- -  - Compliance  Compliance Compliance Compliance Compliance
15	6.2.3	14 days under 100mm head of Diesel Oil	Dimensions Before After  Buoyancy ≤ 5% Loss Before After  No-Shrinkage -Cracking -Swelling -Dissolution -Mechanical Change	14,400 14,700	5,550 5,950	86.73 85.75	-1.12%	30.1 x 29.2 x 10.2 30.1 x 30 x 10	- -  - Compliance  Compliance Compliance Compliance Compliance
13	6.2.3	14 days under 100mm head of High Octane Petroleum	Dimensions Before After  Buoyancy ≤ 5% Loss Before After  No-Shrinkage -Cracking -Swelling -Dissolution -Mechanical Change	14,400 14,700	5,600 5,700	86.24 88.20	+2.22%	30 x 29.6 x 10 31.2 x 30.6 x 9.9	- -  - Compliance  Compliance Compliance Compliance Compliance
17	6.2.3	14 days under 100mm head of High Octane Petroleum	Dimensions Before After  Buoyancy ≤ 5% Loss Before After  No-Shrinkage -Cracking -Swelling -Dissolution -Mechanical Change	14,400 14,700	5,600 5,800	86.24 87.22	+1.12%	29.6 x 29.9 x 10.1 30.1 x 30.5 x 10	- -  - Compliance  Compliance Compliance Compliance Compliance



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Sample No	Clause	Property	Requirement	B in grams	C in grams	Buoyancy (N)	Buoyancy % Loss	Area in Cm	Compliance
12	6.2.3	14 days under 100mm head of Kerosene	Dimensions Before After  Buoyancy ≤ 5% Loss Before After  No-Shrinkage -Cracking -Swelling -Dissolution -Mechanical Change	14,400 14,700	5,500 5,550	87.22 89.67	+2.73%	31.4 x 29.6 x 10.2 32.3 x 30.4 x 10.2	- -  - Compliance  Compliance Compliance Compliance Compliance
16	6.2.3	14 days under 100mm head of Kerosene	Dimensions Before After  Buoyancy ≤ 5% Loss Before After  No-Shrinkage -Cracking -Swelling -Dissolution -Mechanical Change	14,400 14,700	5,500 5,600	87.22 89.18	+2.19%	29.5 x 29.6 x 10.1 30.4 x 30 x 10.2	- -  - Compliance  Compliance Compliance Compliance Compliance



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Sample As Received	Reference: General	Last Revised: 17/03/2015
Report No: 150288		Order #: -
Date Received: 2/02/2015		Date Completed: 12/03/2015
Client: P.J. BOWERS		Telephone: +61 7 5593 8277
Address: Factory 13, Central Drive, Burleigh Heads Gold CoastQLD 4220		Submitted By: Peter Bowers

Sample Description: Neolon (NRP40) Buoyancy Foam.

Test Description	Method
Resistance tests for Class: LDFM A	National Standard for Commercial Vessels Part C – Section 6 – Subsection 6B, Annex F

Sample No	Clause	Property	Requirement	B	C	Buoyancy Newtons	Result Buoyancy ≤ 5 %	Area in Cm	Compliance
31	Table F.2	Bilge Cleaner 5% Solution/30 days	Dimensions Before					30.1 x 29.5 x 9.6 30.2 x 29.4 x 9.6	-
			After						
			Buoyancy ≤ 5% Loss Before	14,800	6,100	85.26	-0.57%		Compliance
After	14,700	6,050	84.77						
No Damage No Deterioration				Nil Nil	Compliance Compliance				
32	Table F.2	Bilge Cleaner 5% Solution/30 days	Dimensions Before					29.9 x 29.8 x 10.2 30.1 x 29.7 x 10	-
			After						
			Buoyancy ≤ 5% Loss Before	14,400	5,450	87.71	-1.11%		Compliance
After	14,700	5,850	86.73						
No Damage No Deterioration				Nil Nil	Compliance Compliance				
21	Table F.2	Petrol Solution/30 days	Dimensions Before					29.6 x 29.7 x 9.7 31.1 x 32 x 9.8	-
			After						
			Buoyancy ≤ 5% Loss Before	14,800	6,150	84.77	-0.57%		Compliance
After	14,700	6,100	84.28						
No Damage No Deterioration				Nil Nil	Compliance Compliance				
22	Table F.2	Petrol Solution/30 days	Dimensions Before					29.4 x 29.6 x 10.1 30.8 x 31.2 x 10.2	-
			After						
			Buoyancy ≤ 5% Loss Before	14,400	5,500	87.22	-4.49%		Compliance
After	14,700	6,200	83.30						
No Damage No Deterioration				Nil Nil	Compliance Compliance				
26	Table F.2	Oil Solution/30 days	Dimensions Before					30.2 x 29.3 x 10.3 30.2 x 29.4 x 10.5	-
			After						
			Buoyancy ≤ 5% Loss Before	14,800	5,500	91.14	-2.15%		Compliance
After	14,700	5,600	89.18						
No Damage No Deterioration				Nil Nil	Compliance Compliance				
27	Table F.2	Oil Solution/30 days	Dimensions Before					29.4 x 29.7 x 10 29.5 x 29.9 x 10.1	-
			After						
			Buoyancy ≤ 5% Loss Before	14,400	5,500	87.22	-2.24%		Compliance
After	14,700	6,000	85.26						
No Damage No Deterioration				Nil Nil	Compliance Compliance				



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