Declaration of Design and Performance (DDP)

Product: Marin Lifejacket	**Version:** 1	
DDP no. 20230126	**Revision no.** Issue 1	
Manufacturer: Crewsaver	**Address:** Tykkemyr 27, N-1597 Moss, Norway	
Typedesign Illustration attached	Version: -	**Reference:** 01314 Marin 290
Statement of compliance The life jackets design is according to ISO 12402 All materials and components are approved to ISO 12402	-	Supporting evidence below – Design
Design No. 01314 Marin 290	-	Marin
Changes: -		N/A
Maintenance, overhaul, and repair manuals	-	User Manual, Service Manual and Service Instructions

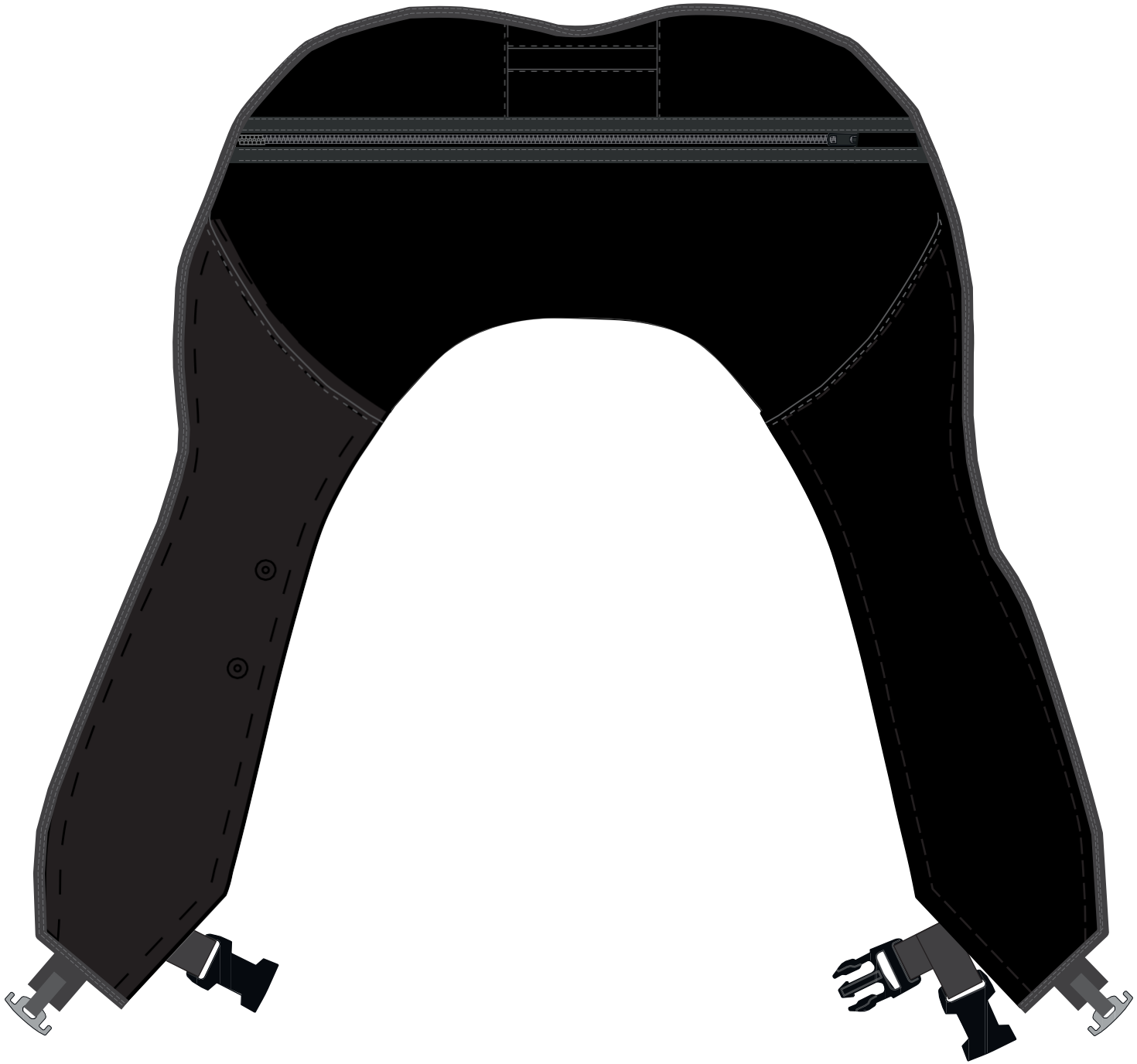
Description of article

Comfortable and lightweight Lifejacket for tough and demanding environments. It can be worn as a standalone lifejacket as well as a body armour capable lifejacket. Designed with focus on ergonomics, weight, and comfort – without compromise.

- Body armour and standalone capability
- YKK Burst Zip
- SOLAS approved emergency light
- UML Pro Sensor Elite Firing Mechanism
- In water performance equivalent to ISO 12402
- CE/SOLAS approved whistle
- MOLLE Body armour attachment
- Back neck zip access
- 290N inflatable lifejacket
- Automatic and Manual operation
- Plastic lightweight buckles
- Incognito SOLAS tape strip
- Oral inflation tube
- Easy access Beaded pull handle
- Buddy line included

List of deviations:

1	Automatic and Manual mode on the lifejacket involves ensuring the sealing cap is used correctly as per the user manual.
2	Attachment to Body armour must comply of the user manual fitting instructions.
3	In water performance is not approved but testing has been carried out. Limited testing completed on but all in line with the ISO 12402 standard. See report WL/FTL/3427 below.
4	Back neck inflation on a horizontal inflation pull.
5	No lifting becket included in the lifejacket.
6	SOLAS reflective tape is covered unless hiding strip is removed.
7	Stand-alone harness is not for lifting.



FLEETWOOD TESTING LABORATORY

B&F
BLACKPOOL AND THE FYLDE COLLEGE

FLEETWOOD NAUTICAL CAMPUS

WL/FTL/3427
19th January 2023

FLEETWOOD TESTING LABORATORY

TEST OF

POLICE VEST
WITH INTEGRAL LIFEJACKET
AND BODY ARMOUR

AGAINST

CUSTOMERS OWN REQUIREMENTS
'HOME OFFICE APPROVAL TEST'

ON BEHALF OF

SURVITEC
SURVITEC HOUSE
LEDERLE LANE
GOSPORT
HAMPSHIRE
PO13 0FZ

THIS REPORT CONTAINS FOUR PAGES
INCLUDING THE APPENDIX

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A UKAS TESTING LABORATORY NO. 1559

Results stated in this report are only representative of the samples submitted for testing at Fleetwood Testing Laboratory.
Uncertainty applied is based on a standard uncertainty multiplied by a coverage factor of k=2, which relates to a coverage probability of approximately 95%. Decision rule ILAC GS:2009 applied with Guard band (I U) which has a specific risk of <2.5% probability for a false accept or false reject **with** the following conformity decision rules applied:

PASS:	***Results± expanded uncertainty** meet **the criteria/specification.***
FAIL:	***Results ± expanded uncertainty** do **not meet the criteria/specification.***
INDETERMINATE:	***Results fall within the area** of **expanded uncertainty for the** criteria/specification **and** so **it is not possible to determine compliance/non-compliance based on a 95%** level **of confidence.***

A satisfactory test report does not imply that the product tested has been approved to the relevant standard. Opinions and interpretations expressed herein are outside the scope ofUKAS accreditation. This test report shall not be published or reproduced in any form without written approval of Fleetwood Testing Laboratory.

Date of tests: The tests were carried out at Fleetwood Testing Laboratory in the FOSC Environmental training tank on 12.01.2023.

Present during testing:

Steve Heawood	Crib Gogh
Scott Tonks	Survitec
Zac Williams	Survitec- Head of product design
Dave Barrass	Humberside Police
Gary Wilson	Humberside Police
Brooke Schofield	FTH Technical Manager
Richard Sharpe	FTH Test House Supervisor
Wayne Lloyd	FTH Testing Engineer
George Hill	FTH Testing Engineer

Product description: 2 x Marin 290 lifejackets with manual inflators supplied on the day by Survitec for testing.

Tests carried out: Survitec requested the use of FOSC Environmental training tank to perform a series of bespoke exercises witnessed by two members of Humberside Police Force. The following activities were performed by the test subjects.

1) Pool entry via the 3m platform and manually inflate the lifejacket with added weight attached by a waistbelt.
2) Self-righting from a face down position in the water simulating unconsciousness.
3) Pool side recovery.
4) Freeboard measurement.

Note: See pictures of testing in Appendix 1.

Test Subjects: Subject 1: Steve Heawood (Crib Gogh Ltd)
Subject 2: Scott Tonks (Survitec)

Test Subject Equipment:

Subject	Clothing	Equipment	Helmets	Added weight* (kg)
1	Ubacs, combats and boots	The Rogue soldier system dressed for AKAP protection	The Rogue spec-ops helmet high cut	18.36
2	Ubacs, combats and boots	The Rogue soldier system dressed for AKAP orotection	Spec-ops full cut	18.36

*Each subject was loaded with an additional 18.36kg of weight by wearing a diving weight belt and integral weights.

Results:

1. 3m Water Entry

Subject	With helmet	Lifejacket manually activated	Time to surface (s)
1	No	Yes	5.29
2	Yes (The Rogue spec-ops helmet high cut)	Yes	4.13

2. Self-Righting

Subject	Start in a face down position	Lifejacket manually activated	Time to turn to a face up position once activated (s)
1	Yes	Yes	3.36

Note: Subject 1 was lying in a face down position in the water simulating unconsciousness. Test subject 2 manually activated the lifejacket of test subject 1.

3. Pool Side Recovery

Test subject 1 was recovered out of the water successfully by test subject 1 and test engineer RS using the grab handles on the rear shoulders of the body armour. Note: See fig 5.

4. Freeboard Measurement

Subject	Freeboard (mm)
2	188

Conclusion

Information relating to testing was reported back to the manufacturer.

End of Report -

APPENDIX 1 – Pictures of Testing

Fig.1. Test subject 1, successful resurfaced following 3m pool entry.

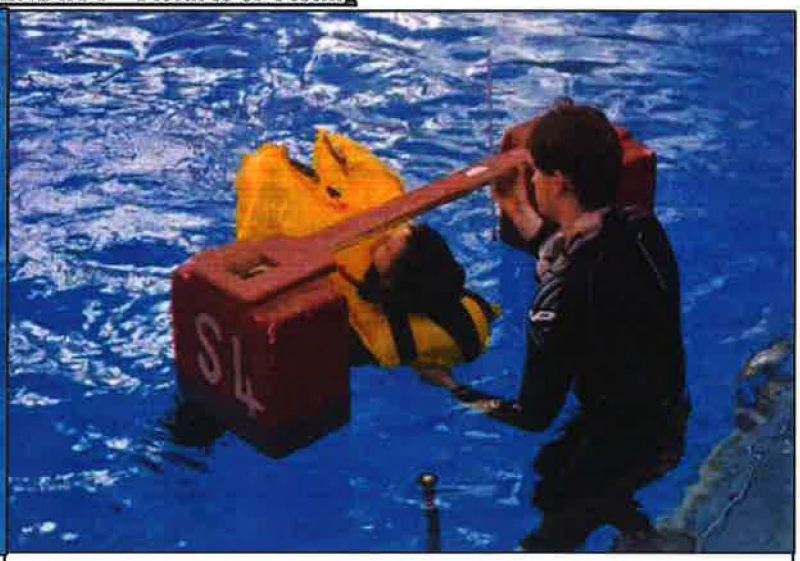

Fig.2. Test subject 2 freeboard measurement

Fig.3. Test subject 1, Face down in the water for the self-righting test with subject 2 in the water manually operating the inflation system.

Fig.4. Test subject 1, self-righting successfully returned to a face up position (airways clear).

Fig.5. Two black grab handles on the rear of the body armour.

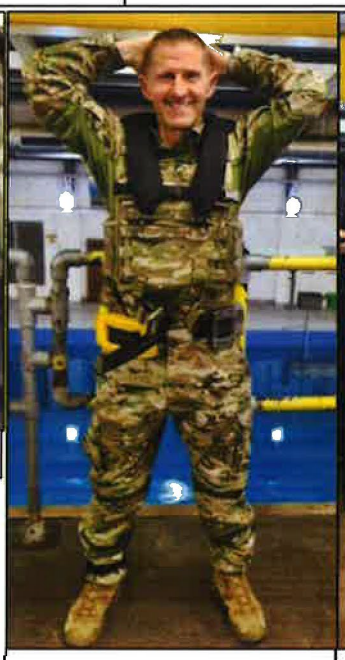

Fig.6. Subject 1: Clothing and equipment fitted with added weif!ht (no helmet).

Fig.7. Subject 2: Clothing and equipment fitted with added weif!ht (no helmet).