

Helmets for Swiftwater and Flood Power Boat Training

Background

We are aware that the decision to require all course participants on our Swiftwater and Flood Rescue Boat courses to wear a PAS 028 certified helmet has caused some confusion within our client groups and concern that this might be a requirement for their own rescue boat operations. This document outlines the reasoning behind this decision and will hopefully allow clients to be suitably informed to assess their helmet needs when operating powered rescue craft in swiftwater and floods.

Helmet Standards

There is currently no European Standard for a water/swiftwater/flood rescue helmet. Thus when deciding on water rescue helmet suitability we cannot just revert to a helmet that meets the relevant standard as for example would be the case when choosing a full body harness for falls from a height where we would ensure any product chosen complied with EN 361 –Personal protective equipment against falls from a height - Full body harnesses.

The two most commonly referenced standards when looking at helmet suitability for swiftwater and flood rescue are EN 1385 and PAS 028.

EN 1385 –Helmets for Canoeing and White Water Sports

Although not looking at rescue operations this standard is often referenced due to the commonality in the environment between where swiftwater rescue operations/training and white water sports take place. Helmets compliant to EN1385 are the most commonly used helmets for swiftwater and flood operations in the UK.

PAS 028 – Marine Safety Helmets

This is not a European Norm but rather a Publicly Available Specification produced by a number of organisations including the RNLI, Metropolitan Police Service, Ministry of Defence and Gecko Gear outlining suitability for a marine safety helmet to be used by occupants of small, fast craft.

Whilst both of the above standards are often referenced, and indeed helmets compliant to both standards regularly used for swiftwater and flood rescue they are not the only determination of suitability. When choosing and providing employees with PPE it is vital that a risk assessment process is followed to ensure that the PPE is ‘fit for purpose’

It must also be considered that the standards are ‘minimum’ standards that must be met under test conditions and potentially helmets certified against a standard may not only meet the standard criteria but exceed this to a point that they are capable of a much greater level of performance than



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required by the standard. The actual performance specification of a particular helmet should be available from the manufacturers and can be used to inform the risk assessment process.

EN 1385 Helmets and Powered Boat Operations

Being designed to meet the needs of people canoeing and taking part in white water activities this standard is based around the premise that the most common head injury in these activities occurs when a person strikes an underwater object after capsizing. The standard assumes that under these circumstances it is extremely unlikely that the speed of impact will be greater than 18km/h (5m/s). Thus the standard is designed around the need for the helmet to absorb the energy that could be generated from an impact with an obstacle in white water when travelling at 18km/h and has a requirement for the helmet to be capable of withstanding an impact of not less than 15 Joules. Additionally, the standard defines white water sports as being non-powered sporting activities, which clearly would not include swiftwater and flood powered boat rescue operation. If we are to thus expose or clients to speeds greater than this then we need to provide them with a helmet designed to deal with impacts from speeds in excess of 18 km/h

Swiftwater and Flood Rescue Boat Training on the Menai Straits

The Menai Straits provides ideal training conditions required for the Rescue 3 Swiftwater and Flood Rescue Boat Operator/Defra Module 4 course. It has predictable class 2 white water conditions and associated features and hazards produced by tidal rapids. Whilst much swiftwater powerboats operations can actually involve relatively slow 'speed over ground' situations there is potential for higher speed operations.

As our courses are based at Plas Menai we transit by boat through the Menai Straits to access the tidal rapids in the 'Swellies' between Britannia Bridge and Menai Bridge. This transit is regularly involving speeds in excess of 18 km/h and thus we have identified a risk of impact that is above that which EN1385 is designed to cope with. Having looked at other helmet standards and the dual need for the helmet not only to cope with the increased speeds from the boat transit but also be suitable for in water rescue training we are using PAS 028 certified helmets for our powerboat training courses.

When could an EN1385 helmet be suitable?

It is a possibility that a helmet compliant to EN 1385 could actually offer a greater level of protection than required by the standard. We would consider the use of such a helmet if information from the helmet manufacturer showed that:-

1. The helmet was tested to show that it could cope with the higher speed impacts that we could expect in our transit journeys in the Menai Straits – ie performing above the level required by EN 1385

and

2. In their opinion it was suitable to be used by occupants of small, fast craft



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Recommendation

R3 Safety and Rescue Ltd has not stated that EN 1385 certified helmets are not suitable for all swiftwater and flood powerboat operations, but if operational areas and risk assessments highlight the potential for boats to be operating in excess of 18 km/h then we would suggest you appraise the suitability of an EN 1385 helmet for such operations.

Paul O'Sullivan

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References

BS EN 1385:2012 Helmets for Canoeing and White Water Sports

<http://shop.bsigroup.com/ProductDetail/?pid=000000000030244585>

PAS 028:2002 Marine Safety Helmets

<http://shop.bsigroup.com/ProductDetail/?pid=000000000019972818>

BS EN 14052:2005 High Performance Industrial Helmets

<http://shop.bsigroup.com/ProductDetail/?pid=000000000030269392>

BS EN 12492:2012 Mountaineering Equipment –Helmets for Mountaineers – Safety Requirements and Test methods

<http://shop.bsigroup.com/ProductDetail/?pid=000000000030244588>



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