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RECOMMENDATION FOR USE

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Article:	Annex:	Clause: 4.3, Table 1, Table C.1
		VG8 RFU 08.041

Key words:

Thermal requirements for surface wetsuits

Question:

Surface wetsuits are classified by the Commission as Category II PPE.

VG8 have an approved RFU 08.041 which outlines the testing requirements for surface wetsuits in the absence of any technical standard specifically written for surface wetsuits. RFU 08.041 takes the test methods and requirements of the standard EN 14225-1:2017 for diving wetsuits and lists those that would be applicable for a surface wetsuit, with exclusions of any diving specific testing/requirements. This was proposed on the basis that surface wetsuits used for surface activities and submersion in water shall also have an evaluation that the materials, components and construction of the suit are robust and provide a level of thermal performance to comply with the applicable essential health and safety criteria of the PPE Regulation.

For thermal evaluation and testing for surface wetsuits, it was deemed that EN 14225-1:2017, Clause 4.3, Table 1 is applied at one bar absolute (surface only).

After being implemented for a number of years, it is found that there are many surface wetsuit materials which incorporate a thinner thermal insulating material than that used for diving application, usually 3mm or less, and most do not meet the lowest thermal class D for diving wetsuits as outlined in Table 1.

This does not mean that such surface wetsuits do not provide any protection, only that they provide a lower level of thermal protection, that may be suitable in warmer waters, on the basis that the user is carrying out activities on the surface and normally carrying out activities and a level of work that would also contribute to maintaining body heat, e.g. surfing, kayaking, SUP, and so a lower thermal performance may be acceptable.

Is it therefore acceptable, to accept a lower thermal performance, for materials specifically used in the construction of surface wetsuits?

Solution:

Yes.

As per RFU 08.041, a thermal measurement shall be made in accordance with EN 14225-1:2017, 5.4.3 at one bar absolute only.

Surface wetsuits that provide a lower thermal performance below the minimum criteria of a Class D diving wetsuit in accordance with EN 14225-1:2017, Clause 4.3 Table 1, may be categorised outside the thermal performance class of EN 14225-1:2017 applied for diving wetsuits.

A new Class 'E' is introduced, to be applied for surface wetsuits only and with a restriction that they are only for use in water greater than 22°C.

EN 14225-1:2017, Clause 4.3 – Thermal performance of suit materials

Thermal performance class	Immersed thermal resistance at surface ($m^2 \cdot K \cdot W^{-1}$)
A	$\geq 0,15$
B	0,10 – 0,149
C	0,07 – 0,099
D	0,05 – 0,069
E (Applicable for surface wetsuits only)	0,03 - 0,049

EN 14225-1:2017, Annex C - C.5 Wet suit thermal insulating material

Thermal performance class of wet suit material	Water temperature ranges
Class A	7 to 12°C
Class B	10 to 18°C
Class C	16 to 24 °C
Class D	> 22°C
E (Applicable for surface wetsuits only)	> 22°C

Additional Marking Requirements and User Information for Surface Wetsuits:

A wetsuit intended for use as a surface wetsuit only, that meets any of the thermal Classes' A-E, proven by testing in accordance with EN14225-1:2017 Clause 5.4.3 at one bar only, shall have an additional Warning marked on the product as follows:

'This wetsuit is not a diving wetsuit and is only suitable for surface activities.'

Surface wetsuits that are 'Class E', shall have additional Warnings marked on the product as follows:

"This wetsuit does not provide the minimum level of thermal protection in accordance with EN14225-1:2017 and shall only be used as a surface wetsuit in water temperatures greater than 22 °C."

In addition, Surface wetsuits that are 'Class E', shall bear the table:

Thermal performance class of wet suit material	Water temperature ranges
Class A	7 to 12°C
Class B	10 to 18°C
Class C	16 to 24 °C
Class D	> 22°C
E (Applicable for surface wetsuits only)	> 22°C

In addition, the manufacturers user information shall also include information for the end user to be informed that when selecting a wetsuit to be used for surface activities, the temperatures stated are as general guidance, and the following factors must also be considered by the individual who will be wearing the wetsuit:

- users' morphology (body surface area and shape, body fat, sex) and physiology;
- users rate of work and activity being undertaken;
- the time and frequency exposed to immersion in water (constant immersion for activity i.e. open water swimming, or intermittent immersion i.e. paddle boarding/kayaking).