

# NORTHERN DIVER

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THERMAL GARMENTS MANUAL

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Thank you for purchasing from Northern Diver. To help ensure your future safety, do not use this product before reading this manual. It is important to fully understand its proper handling for safe usage.

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Undersuits provide crucial thermal protection when diving, trapping air and maintaining body heat during the dive and also between dives. Undersuits can range from simple fleece type garments to advanced suits with anticompression panels or even built-in heating.

Your thermal requirements will depend on water temperature, your suit type and how much you feel the cold. Water transfers heat from the body up to 25 times faster than air which means a diver will quickly start to feel the cold without protection. The colder the water, the quicker the onset and the greater the need for undersuits and base layers.

Drysuits have their own thermal properties; some are much better than others, neoprene suits are much warmer and require thinner undersuits, but membrane suits provide very little thermal protection and therefore require thicker or even layered undersuits.

Too much insulation can lead to dangerous overheating and lead to the effects of hyperthermia. Too little insulation can lead to the effects of hypothermia and death. Always ensure that body extremities are also well insulated-wear suitable gloves, hood/hat and socks or boots.

Undersuits are available in a wide range of styles, thickness grades and materials, with our own spanning from the thinnest Thermalskin up to the much thicker and more thermally insulating Metalux® Arctic. Keep in mind that you can use different combinations of undersuits and base layers to find the thermal protection that works for you.

If you're unsure on what thermal protection to wear, feel free to call us for expert advice on +44 (0) 1257 25 44 44. You can email if you prefer – [info@ndiver.com](mailto:info@ndiver.com)

Or if you are nearby, feel free to visit us. Guides for which Northern Diver undersuits to wear with each drysuit can be found online or in the Northern Diver drysuit catalogue available in store or downloadable online.

## **Allergic reactions**

Every material can cause allergic reactions, before using our products please be aware of the potential risk of experiencing allergy towards the materials used in the construction of the product.

### Care of thermal garments

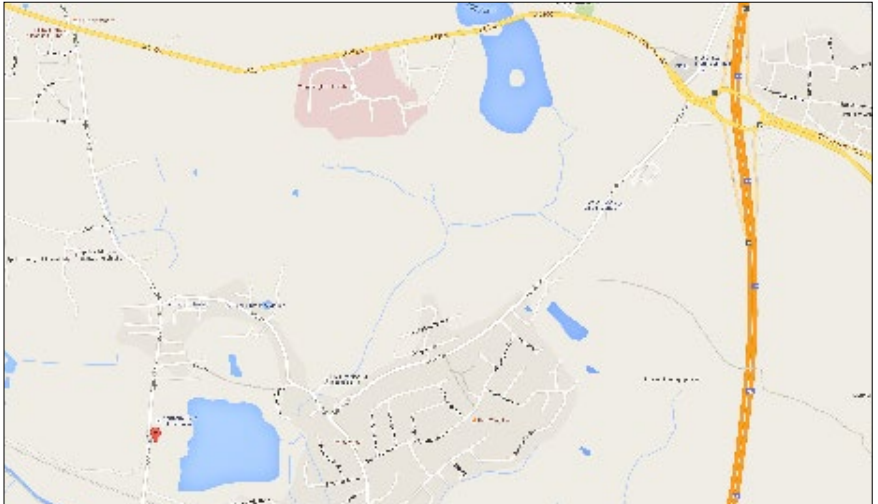
After each days use you must hang the garment up to dry. Never hand wring a garment as this could damage any internal insulation and seriously impair its performance. If laundering is required follow the washing instructions found inside the garment carefully.

These are normally as follows: machine washing should be at a much reduced cycle, the use of some fabric conditioners may impair the moisture wicking properties of the fabrics. You must hang up to dry and never wring out the garment. The use of a tumble dryer is only advised if specified on the washing instructions.

### Hyper/hypothermia

Drysuits are often used in extreme temperature conditions, where there may be combinations of cold surface conditions and cold water, or hot surface conditions and cold water. It is important to know your own personal thermal safe range, to avoid over heating, or becoming chilled. While a drysuit and warm undergarment have excellent thermal protection, they do have limits and your safe and enjoyable time in the water is variable based on water temperature and condition, workload, and your own body type. Hypothermia is the cooling of the body core to unsafe levels. Hyperthermia is the overheating of the body core to unsafe levels. Hyperthermia in drysuit use is most often experienced during surface intervals in hot weather, or during periods of excessive workload in warm, shallow water.

### Find us



We are happy to answer any questions you may have. We are located in Appley Bridge, Lancashire, UK - only 5 mins from the M6 motorway (J27). Manchester & Liverpool international airports are only 40 mins away. Wigan North Western rail station is 2 hrs & 3 mins from London Euston.

We are more than happy to collect clients and return them after their visit. Northern Diver International Ltd. East Quarry, Appley Lane North, Appley Bridge, Wigan, Lancashire, WN6 9AE, UK



Find Us Online.

**View our extensive product range**

[www.ndiver.com](http://www.ndiver.com)



[www.ndiver.com](http://www.ndiver.com)

Tel: +44 (0) 1257 25 44 44

Email: [info@ndiver.com](mailto:info@ndiver.com)

East Quarry, Appley Lane North, Appley Bridge, Wigan, Lancashire, WN6 9AE, UK