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English Version

Protective clothing - Garments with permethrin as-treated articles supporting the protection against tick bites

Habillement de protection - Vêtements comme articles traités à la perméthrine pour la protection contre les piqûres de tiques

Schutzkleidung - Mit Permethrin behandelte Schutzkleidungsstücke zum Schutz gegen Zeckenbisse

This draft European Standard is submitted to CEN members for formal vote. It has been drawn up by the Technical Committee CEN/TC 162.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (FprEN 17487:2022) has been prepared by Technical Committee CEN/TC 162 “Protective clothing including hand and arm protection and lifejackets”, the secretariat of which is held by DIN.

This document is currently submitted to the Formal Vote.

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of Regulation (EU) 2016/425 and Regulation (EU) No 528/2012.

For relationship with EU Regulation, see informative Annex ZA, which is an integral part of this document.

Introduction

By preventing tick bites, a range of tick-borne infectious diseases can be prevented. This document refers to protection against all biting stages of the tick *Ixodes ricinus*, hereafter named wood tick, the tick species with the largest occupational and public health relevance in Europe.

The most prevalent disease transmitted by the wood tick is Lyme borreliosis, but (until now incidentally) also others diseases like tick-borne encephalitis. Lyme borreliosis can affect the skin, nervous system, joints and heart. In some EU countries, Lyme borreliosis is regarded as an occupational disease. Employers are then obliged to make the best possible effort to prevent occupational diseases among employees. Employees are also obliged to reasonably abide by the measures offered.

The garments help protect people who can come into contact with ticks during their work. Wood ticks lay in ambush in the lower vegetation and cling on to passers-by with whom they come in to contact. They then crawl over skin or clothing to find a site where they can consume a blood meal. The protective effect of the garment against tick bites is primarily determined by the extent to which the garment covers the skin, and this effect will increase as a larger part of the body is covered. It is important here that those body parts (legs, waist, torso and arms) are covered that have contact with vegetation in which ticks can be present (up to a height of 1,5 m). When wearing covering garments without permethrin, ticks are able to crawl over the fabric for minutes up to several hours and reach bare skin to bite. In addition to the protective effect of covering the body, the permethrin on or in the fabric offers extra protection. Ticks that come in contact with permethrin are immobilized, and as a result they are no longer able to reach bare skin and transfer pathogens through a bite. Protection against tick bites can be one of the functions of a garment. Examples of other functions can be maintaining body heat, preventing exposure to UV light, camouflage, preventing skin irritation or injury by plants or working conditions, or representation and recognizability.

The body covering garments can also help other target groups such as volunteers and recreationists (such as hunters) to offer protection against tick bites. However, the choice of using the garments is ideally based on a professional risk assessment which includes exposure to ticks, and factors such as age and pregnancy. Instructions for use and warnings for tick bite risks also apply to these users and it is important that these are provided to these groups by the manufacturers of these garments.

The body covering garment industrially treated with permethrin or made with fabrics based on yarn containing permethrin yarns, or other treated fabrics, can also help to protect against other arthropods that can transmit diseases, such as different tick and mosquito species [6]. However, this document only applies to the protection against bites by the wood tick, and specifically the most relevant developmental stage (nymphs). A detailed description of the requirements is given in Clause 4 of this document.

Garments can be treated with permethrin to prevent tick bites. In accordance with the Biocidal Products Regulation (EU) 528/2012, such garments can be regarded either as ‘treated articles’ (if protection against ticks is part of a set of functionalities such as protection against weather conditions, camouflage, company representation, protection against stinging plants, etc.) or as ‘biocides’ (if the primary function of the garment is protection against tick bites). This document is only focusing on garments to be considered as treated articles. [3]