



ISO 17491-4

**Protective clothing — Test methods
for clothing providing protection
against chemicals —**

**Part 4:
Determination of resistance to
penetration by a spray of liquid
(spray test)**

*Habillement de protection — Méthodes d'essai pour les vêtements
fournissant une protection contre les produits chimiques —*

*Partie 4: Détermination de la résistance à la pénétration par
pulvérisation de liquide (essai au brouillard)*

**Second edition
2024-05**

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Published in Switzerland

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This document was prepared by Technical Committee ISO/TC 94, *Personal safety — Personal protective equipment*, Subcommittee SC 13, *Protective clothing*, in collaboration with the European Committee for Standardization, (CEN) Technical Committee CEN/TC 162, *Protective clothing including hand and arm protection and lifejackets*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 17491-4:2008), which has been technically revised. It also incorporates the Amendment ISO 17491-4:2008/Amd.1:2016.

The main changes are as follows:

- specifications for test liquid have been revised/added;
- [Clause 6](#) has been revised to provide more specificity. Specification have been changed and/or revised for absorbent overall, calibrated stain, turntable, spray booth, spray boom, hydraulic nozzles in [Clause 6](#) and other applicable clauses;
- details for the selection of the right overall size have been added in [6.10](#) as well as in [Annex B](#);
- [8.3](#) has been revised and heading changed to “Distribution of the spray liquid and alignment of spray nozzles.”;
- figure and additional information have been added in [9.1](#) to provide more specificity;
- inclusion of [Annex A](#) on absorbent fabric for the detector suit and non-absorbent fabric for the calibration pattern;
- inclusion of [Annex B](#) on test subject size measurement and right overall size fitting;
- inclusion of [Annex C](#) on right donning and doffing, as well as stain area measurement;
- inclusion of [Annex D](#) with the ILT results.

A list of all parts in the ISO 17491 series can be found on the ISO website.

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This document describes a test method for determining the spray penetration resistance of chemical protective clothing Type 4 (with spray-tight connections between different parts of the clothing and, if applicable, between the clothing and other items of personal protective equipment) and Type 6 (limited performance protective clothing).

Such clothing comprises one or more items covering the full surface of the body and is intended to be worn under conditions where there is a risk of exposure to a spray of a liquid chemical. Other requirements with regard to this type of clothing and its constituent materials can be found in the respective product standards^[1].

Interlaboratory testing has shown that this test method is a repeatable pass/fail method.

A document on the selection, use and maintenance of chemical protective clothing is available^[2].