Outer Wear & Hi-Viz Product Guide

ENV 343

Protective clothing against rain, wind and cold at temperatures higher than -5°C.

This Norm covers Waterproofness and the Breathing properties of a Garments. Each parameter has a level of which 3 is the highest. Breathability is measured in "Resistance to Water Vapour" The higher this value the less breathable the garment is. Also Jackets with a thermal liner have the "snowflake " pictogram. The Norm also incorporates strength of fabric and seams and has some design briefs. The best solution for multi- season use is to concider the Multi-Layer priciple of

1) The wicking layer- Next to skin and essential to keep the wearer comfortable. I.E. Underwear

2) The Insulating Layer- Engineered to keep the wearer warm, in concideration to the wearers job function. I.E Fleeces.

3) The Outer Protective Layer- This layer offers ideal protection against wind, rain, dirt etc.

Performance parameters:

x: waterproofness (3 levels)
y: breathing properties (3 levels)

Clothing with a thermal lining

Parameters:

x: breathing properties (2 levels)
y: thermal insulation (2 levels)

ENV 342

Protective clothing against cold at temperatures under -5°C.

This Norm is typically used as a test for garments worn in industrial Chill and Freezer areas.

Performance parameters:

x: resulting thermal insulation measured with underwear of type B
y: air permeability (3 levels)
z: breathing properties (3 levels)

EN 471 High-visibility clothing

EN 471 is the only accepted norm with regards to Conspicuity. It takes into account both Day time (Background fluorescent Fabrics) and Night time (Retroreflective Materials either with Glass bead or Prismatic technology) requirements. The main purpose of these garments is to make drivers of vehicles aware of the prescence of the wearer both on public roads and other similar situations such as Busy Yards, Docks, etc.

These garments must be made from Conforming Fabrics in Fluorescent Yellow, Fluorescent Orange, and Fluorescent Red only, The fabrics are tested before and after exposure to artificial Sunlight and the Influence of Washing. Several forms of Retroreflective striping is allowed. In the UK we normally have 2 body bands, 2 Sleeve bands and over the shoulder Braces on a jacket but other versions are allowed, in some situations, such as " body bands and 2 sleeve bands. All tape must be 50mm wide.

A pair of trousers must conform to EN 471 Class 1.

A Waistcoat or Bodywarmer Must Conform to EN 471 Class 2.

A Jacket with sleeves must conform to EN 471 Class 3.

x: surface of fluorescent and retroreflective material (3 levels)
y: quality of the retroreflective material (2 levels)

EN 533

Protection against flames

The object of EN533 is that limited flame spread Materials and Material assemblies are used in protective clothing in order to reduce the possibility of the clothing burning and thereby itself constituting a hazard.

There are 3 levels, Index 1 to 3 with 3 being the highest. The tests are:

	Index 1	Index 2	Index 3
Limited Spread of flame	Yes	Yes	Yes
Forms a hole	Yes	No	No
Flaming Debris?	No	No	No
Afterglow shall not spread.	Yes	Yes	Yes
After flame time	>2Sec	>2Sec	<2sec

There is also a durability test for the number of washes which the samples had before testing.

x: flame spreading index (3 levels).
y: durability index

ENV50354 - CLC/TS 50354

Protective clothing for workers where the possibility of exposure to an electric arc exists An electric arc is akind of continuous electric discharge that produces a bright light and an intense heat. This arc is produced in a gas between two electrodes at low pressure or in open air. Dependant on the ampage, temperatures above 1000°C can rise out of an arc. In addition to these extreme temperatures, a high pressure also ensures. These high pressures waves can involve metal and chemical splashes and /or steam.

EN 1149/3

Protection against the danger caused by static electricity

This is norm that is essential in DSEAR and EXAT situations where there are risks of an explosive atmosphere E.G. Petrochemical Refineries, Gas Pipeline work etc.

EN 465

Protection against liquid chemicals, spraytight (type 4)

EN 466

Protection against liquid chemicals, liquidtight (type 3)

EN 467

Protection against liquid chemicals, limited protection

13034

Protection against liquid chemicals, limited flamespread, type PB(6)

Chemical Repelency tests for liquid chemicals.

For further guidance please contact your **EUROSAFE** *Member who will be pleased to assist with product selection*