Personal Protective Clothing

Food & fishing industry
the simple idea of being protected
brings wings to our nature
Always in search of new solutions and only one way leads to success: the way of innovation, the desire to be creative, to experiment, to find new methods and to respond in an appropriate way, the will to concretize its ideas.

That's the motto for success in the future and that's also the motto of Sioen Industries.

This modern building is the center of Sioen Industries and especially offers a dynamic working place for marketeers, product developers or highly skilled technicians within an attractive production unit. The employees of Sioen are all driven by the same spirit: to create the best range of protection garments in the world. They are always in pursuit of innovations within the future, using the latest technology.

In Moeskroen, the R&D department is constantly on the alert for innovations. The equipment they use in the lab can go from very simple systems to the most advanced machinery. Our employees are always searching for an answer to the question why certain materials react in a certain way and they try to satisfy the customers specific needs. The large investments in new materials and applications, make that Sioen can keep its lead on technological level.

Product developers and designers at Sioen do have an extended range of materials and methods at their disposal in order to shape their ideas. With the help of the most recent CAD/CAM technology, creative ideas can grow in a functional way. But for the creation of a well-fitting garment, the human being remains the most important link after all.

The detailed technical specifications for the latest style and design are updated before they leave to the production unit. Worldwide, Sioen has 8 production units in which the most advanced machines produce the different Sioen collections according to the ISO 9001-standards. In everything Sioen takes action, the company is fully alive to details and finally, that's the key to a product of perfect quality.

The central and fully automatic dispatch and distribution center in Moeskroen guarantee an optimal stock control and a quick and efficient distribution of the final products which are sent throughout the world.

Sioen is a progressive company which reacts quickly to innovations. A pioneer company concerning new products and the development of new applications for existing products.

Sioen is a dynamic company heading for the future. It is a company with the special gift of detecting new needs and to develop new methods in order to fulfill these needs. So everywhere in the world, at any time, someone is counting on Sioen.
For you, it’s just ordinary industrial clothing.

For us it’s the result of testing prototypes, lab tests, certificates. For us it’s the ideal fit, the best size chart and the search for a perfect finishing touch.

For us it’s also the combination of the best pocket, hood and zip. For us it’s the communication with the endusers, distributors and sales people. For us it’s 40 years of experience for your comfort. For us it’s a philosophy to create, to complete and simply to be the best.

For you it’s the best and most comfortable protection for your health during your professional activities.
The simple idea of being protected brings wings to our nature
Flexothane® Kleen has been developed especially for the food industry, food processing and environments where hygiene is extremely important. Flexothane® Kleen is washable at 95°C. Washing at this temperature ensures that your garment is clean every day and complies with the hygiene requirements for clothing in the food industry.

Flexothane KLEEN reversible bib & brace trousers

buckles on front and back / elastic braces / reversible article: logo on front- and backside / press studs at ankles / high frequency welded seams
Flexothane KLEEN Coverall

hood with elastic on both sides / zip closure under flap with press studs / raglan sleeves / wind cuffs / press studs at ankles / high frequency welded seams
Flexothane KLEEN jacket

hood with elastic on both sides / zip closure under flap with press studs / raglan sleeves / underarm ventilation / sleeve narrowing by elastic / high frequency welded seams
Flexothane KLEEN apron

- Elasticated cuffs
- Reinforced front patch for extra protection
- Ribbon at back
- High frequency welded seams

Flexothane KLEEN sleeves

- Elasticated borders
- High frequency welded seams
nICEWEAR® is the result of years of R&D and extensive experience. nICEWEAR® combines two high tech fabrics:

**Outer fabric**: polyamide/cotton, supple and water-repellent

**Lining**: ISOSOFT®, a thermobonded structure consisting of very fine polyester fibres which has been developed to ensure an excellent insulation even at reduced thickness.

Protection up to -40°C (-40°F)

Avoidance of cold bridges

ISOSOFT® high grade extra protective thermal lining

**INFRARED SCAN**

of a nICEWEAR® cold storage garment versus a traditional cold storage garment

The infrared scan shows clearly the efficiency of nICEWEAR®. The red shades give a clear indication of the poorly insulated zones (loss of heat) whereas the blue shades indicate the well insulated zones (no loss of heat).

Where traditional polyester/cotton cold storage clothing suffers from loss of heat at all essential parts, nICEWEAR® shows a remarkable performance level: heat is clearly withheld around the body inside the clothing.

**Recommended maximal exposure time at three levels of insulation, represented by the lcl, r-value**

From the graphics shown above, one can easily derive how long a person with a metabolism of 115 W/m² (light work) and with a metabolism of 170 W/m² (moderately heavy work) can work so that a predetermined level of insulation, represented by the lcl, r-value, remains guaranteed.

**Conditions of use for the SIOEN cold storage clothing**

Resulting thermal insulation measured and represented by the lcl, r-value = 0.414 m².K/W(*) (**)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Very light (1)</th>
<th>Light (2)</th>
<th>Moderate (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration hours</td>
<td>8</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>COVERALL</td>
<td>0°C</td>
<td>-18°C</td>
<td>-11°C</td>
</tr>
<tr>
<td>MATTERHORN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TROUSERS ZERMATT &amp; JACKET VERMONT</td>
<td>2°C</td>
<td>-15°C</td>
<td>-8°C</td>
</tr>
</tbody>
</table>

(*) This value allows you to find in the table how long a person who has to make a certain effort can work at a certain temperature.

(1) Measured on a mannequin with type B underwear: undershirt with long sleeves, long johns, additional thermo underwear, socks, felt slippers, knitted gloves and bonnet.

(2) Metabolism 115 W/m² (doing light manual work while standing still or sitting down)

(3) Metabolism 170 W/m² (making moves while walking 2 km/hour or standing still)
Nicewear cold storage jacket

Nicewear cold storage coat

- 40°C
- 40°F
**Nicewear cold storage coverall**

fleece collar / cord in collar / inside pocket / breast pocket with separate pen holders / zip and press stud closure / elasticated waist / knitted windcuffs / 2 roomy pockets / extra protection and lining at knees, elbows and shoulders / heavy-duty zip and touch and close fastening at legs

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**Nicewear cold storage hood**

extra ear protection / high grade extra protective thermal lining / touch and close fastening / knitted protection
Nicewear cold storage trousers

high back / zip closure / extra protection and lining at knees /
2 roomy pockets / heavy duty zip and touch and close fastening at legs
VILOFT® original was the first fibre in the VILOFT® range to be developed and has an established presence in the market amongst manufacturers and retailers alike. The fibre has become widely recognised as possessing advanced technical properties, to meet the demands of today’s consumers.

Benefits:

Thermal: when blended, VILOFT® original’s engineered flat cross-section traps pockets of air to protect and insulate the skin against cold.

Softness: due to its unique flat cross-section, VILOFT® original creates fabrics and garments with an extremely soft handle for excellent next-to-skin comfort.

Breathable: outstanding moisture control through a fast wicking action and rapid water vapour permeability, allowing skin to breathe and garments to remain comfortable during wear.

Natural: 100% natural in origin

Lightweight: light to wear, ideal for performance layering systems and smooth under close-fitting outerwear

Easy care: garments can be worn and washed at 40°C without losing their shape, style or colour.
T-shirt with long sleeves “thermal”

knit: quality interlock / composition: 50% polyester / 50% viscose (Viloft)
weight: +/- 210 to 220 g/m² / ribbed collar / elongated back 4.5 cm / bodysized (without seams)

long johns “thermal”

knit: quality interlock
composition: 50% polyester / 50% viscose (Viloft)
weight: +/- 210 to 220 g/m² / front fly
polo-neck

knit: two-way stretch jersey
composition: 47.5% polyester, 47.5% viscose (Viloft), 5% elasthane
weight: 270 g/m² / elongated back 4.5 cm
pullover

knit: invisible brushed molleton with w connection
composition: 47.5% polyester, 47.5% viscose (Viloft), 5% elasthane
weight: 370 g/m² / elongated back 4.5 cm / short zip
The Maratech collection from Sioen has been developed to offer protection for use in industrial fishing. A single sided soft PVC coating with special plastisizer has been applied to a polyester knit fabric (+/- 450 g/m²).

The complete range consists of a jacket, two gutter smock styles, a bib and brace trousers, an apron and sleeves, which when combined, will offer you the most comfortable protection from all weather conditions.

**Maratech gutter**

- Adjustable peaked hood with side elastication /
- Hood adjustment by touch and close fastening /
- Front neck flap with touch and close fastening /
- Seams stitched and double welded to guarantee waterproofness /
- Gusset at front secured by touch and close fastening /
- Extra deep protective double wrist cuffs / back length 80 cm
**Maratech jacket**

- Fixed hood / hood adjustment by touch and close fastening
- Front neck flap with touch and close fastening / seams stitched and double welded to guarantee waterproofness
- Double storm flap with touch and close fastening
- Extra deep protective double wrist cuffs
- Full front zip in PVC
- Back length 80 cm

**Maratech bib & brace trousers**

- Comfort fit braces with side release buckles / all seams stitched and double welded to guarantee waterproofness
- 2 side slits protected by flap with touch and close fastening / envelope storm pocket on bib with touch and close fastening
- Elasticated back / reinforced at knees and bib area
Maratech apron

- Neck tape adjustable by ladder lock buckle
- Reinforced front patch for extra protection
- 90 cm wide / 120 cm long

Maratech sleeves

- Elasticated top end / Elasticated wrist end with touch and close fastening
- 50 cm long
In addition to Flexothane® and Viloft®, Sioen also uses Duotex, a fabric which has been included for its specific clothing application.

**Duotex 300 sleeves**

- elasticated borders / high frequency welded seams

**Flexothane sleeves**

- elasticated borders / high frequency welded seams
8042 Bratislava

Duotex 300 apron
90 cm wide / 120 cm long

8062 Argentina

Duotex apron
90 cm wide / 120 cm long / with reinforced front patch
If you are considering function, freedom of movement and strength to be the crucial criteria when selecting protective clothing, Flexothane® Classic is a must for you.

Flexothane bodywarmer
quilted lining + inside pocket / zip closure / back length 75 cm

Flexothane bib & brace trousers
high frequency welded seams / legs adjustable by press studs
Flexothane rain jacket
foldaway hood in collar / high frequency welded seams / underarm ventilation / zip and press stud closure / sleeve narrowing by press studs / 2 lower patch pockets / back length 85 cm

Flexothane rain trousers
elasticated waist / high frequency welded seams / legs adjustable by press studs
## OUR FABRICS FOR THE FOOD INDUSTRY

<table>
<thead>
<tr>
<th>name</th>
<th>weight</th>
<th>composition</th>
<th>purpose / application</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLEXOTHANE® Kleen</td>
<td>+/- 170 g/m²</td>
<td>PU coating on a polyamide knitted fabric</td>
<td>General protective clothing for the food industry. Waterproof, light, breathable,</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>stretchable, highly tear resistant, solid, hygienic (washable at 95°C). Antifungicidally treated. Offers 100% barrier protection against blood borne pathogens (ASTM F1671-97)</td>
</tr>
<tr>
<td>NICEWEAR</td>
<td>+/- 245 g/m²</td>
<td>fabric (polyamide/cotton)</td>
<td>Industrial use, very high breaking strength and high tear strength, waterrepellent. Washable at 60° C.</td>
</tr>
<tr>
<td>VILOFT® ACTIVE</td>
<td>+/- 150 g/m²</td>
<td>Viloft is a mixture of 50% Viloft Original viscose Accords and 50% polyester</td>
<td>Ideal for intense physical activities Benefits: thermal, softness, breathable, natural, lightweight and easy care.</td>
</tr>
<tr>
<td></td>
<td>to +/- 160 g/m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VILOFT® THERMAL</td>
<td>+/- 210 g/m²</td>
<td></td>
<td>For extra thermal comfort</td>
</tr>
<tr>
<td>MARATECH</td>
<td>+/- 430 g/m²</td>
<td>PVC coating on a polyester knitted fabric</td>
<td>Industrial use, high breaking strength and tear strength, waterresistant.</td>
</tr>
<tr>
<td>DUOTEX</td>
<td>+/- 300 g/m²</td>
<td>Double sided PVC coating on tear resistant polyester fabric</td>
<td>Intensive industrial use, high tear resistance</td>
</tr>
<tr>
<td></td>
<td>or +/- 650 g/m²</td>
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### Size table

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<th>Chest</th>
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<td>164-182</td>
<td>88-96</td>
<td>76-84</td>
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<td>50-52: M</td>
<td>164-182</td>
<td>96-104</td>
<td>84-92</td>
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<td>54-56: L</td>
<td>170-188</td>
<td>104-112</td>
<td>92-100</td>
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<tr>
<td>58-60: XL</td>
<td>170-188</td>
<td>112-120</td>
<td>100-108</td>
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<tr>
<td>62-64: XXL</td>
<td>176-194</td>
<td>120-128</td>
<td>108-116</td>
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<tr>
<td>66-68: XXXL</td>
<td>176-194</td>
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### European norms and pictograms

<table>
<thead>
<tr>
<th>Norm</th>
<th>Description</th>
<th>Performance Classes</th>
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</table>
| ENV 343    | protection against foul weather: rain, wind and cold (up to -5°C) | x: waterproofness (3 levels) 
                      y: breathing properties (3 levels) |
|            | **garments with a thermal lining**                           | x: breathing properties (2 levels) 
                      y: thermal insulation (2 levels) |
| ENV 342    | protection against cold: (below -5°C)                       | x: resulting thermal insulation tested with underwear type B 
                      y: air permeability (3 levels) 
                      z: breathing properties (3 levels) |
| EN 471     | high visibility warning clothing                              | x: surface of fluorescent and retroreflective material (3 levels) 
                      y: quality of the retroreflective material (2 levels) |
| EN 533     | protection against flames                                    | x: limited flame spread index 
                      y: durability index |
| EN 531     | protective clothing for workers exposed to heat              | A: essential condition = limited flame spread index 3 
                      B: (B1-B5) insulation against convective heat 
                      C: (C1-C4) insulation against radiant heat 
                      D: (D1-D3) insulation against molten aluminium 
                      E: (E1-E3) insulation against molten iron |
| EN 1149-1  | protection against static electricity                         |                                              |
| 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       |                                              |

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