

teamdress®

high performance workwear



**OPTIMUM PROTECTION,
ALWAYS AND EVERYWHERE.**

Safe and comfortable PPE protective clothing, also with sustainable fabric.

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PPE?



Your health and your safety are our most important aim when creating PPE protective clothing. We at teamdress align all our planning and manufacturing with this goal. Benefit from our experience of over 100 years in the manufacture of workwear.

PPE Norms

We operate fully in accordance with the PPE Regulation (EU) 2016/425. All our PPE items are certified in compliance with the relevant standards for the relevant area of application. Wherever possible and appropriate, we exceed the requirements of these standards.

PPE Application

In addition to multi-norm clothing, we offer specific clothing solutions for all PPE-relevant functional areas with the objective of optimizing the combination of protection and work effectiveness.

PPE Development

In addition to the standards, we pay particular attention to your feedback. These suggestions have effectuated that we are constantly using new fabrics with improved properties; that we are changing features in the collections; that components, cuttings and manufacturing have been adapted; and that we are constantly increasing the durability of our products.

PPE Sustainability

Increased durability, especially in industrial laundry, fit accuracy and wearing comfort result in a longer lifetime of our products. In conjunction with certification to various (socio-) ecological standards, we live resource conservation; and we will continue to improve it.

We will gladly advise you on the selection of suitable protective clothing. Together, we can ensure that your employees are equipped with optimal protective clothing for their activities and their working environment.



■ our sustainable collections

WIR FÜHREN PRODUKTE MIT DEM SIEGEL:



SOZIAL-ÖKOLOGISCH STAATLICH
UNABHÄNGIG ZERTIFIZIERT.

■ The seal is issued by the Federal Ministry for Economic Cooperation and Development.

■ The Green Button seal makes sustainably produced textiles visible in trade.

■ The Green Button sets binding requirements to ensure that people and nature are not harmed.

Learn more at:
www.gk-info.eu/teamdress



COTTON
MADE IN
AFRICA

■ An initiative of the Aid by Trade Foundation

■ As part of the Cotton made in Africa demand alliance, we source cotton verified by Cotton made in Africa. Each product bearing the "Supporting the Cotton made in Africa Initiative" label helps ensure that farmers receive equal pay, learn more about protecting nature, and are trained in efficient and sustainable growing methods.

More information:
cottonmadeinafrica.org/en/massbalance

ITEM MATRIX

MEN'S/
LADIES'
WITH/WITHOUT
REFLECTIVE
STRIPES

COLOURS



Logos X

ITEM	DESCRIPTION	SEX	REFLECTIVE STRIPES	COLOURS	EN ISO 20471	EN ISO 11612	EN ISO 11611	EN 1149-5	EN 61482-2	EN 13034	EN 343	STANDARDS
10 ecoRover WELDER	47% modacrylic / 32% cotton 20,5% polyamide / 0,5% antistatic	♂	✓	Blue, Black, Grey		Flame	A1+A2 B1 C1 E2 F1	Class 2	Lightning	Lightning	Lightning	eR W
12 ecoRover SAFETY	48,5% modacrylic / 34% cotton 17% polyamide / 0,5% antistatic	♂ ♀	✓	Blue, Black, Grey, Red		Flame	A1 B1 C1 E1 F1	Class 1	Lightning	Lightning	Lightning	eR S
18 ecoRover SAFETY PLUS	47% modacrylic / 32% cotton 20,5% polyamide / 0,5% antistatic	♂	✓	Blue, Black, Grey, Red		Flame	A1+A2 B1 C1 E2 F1	Class 2	Lightning	Lightning	Lightning	eR SP
22 ecoRover SAFETY FLEX	45% modacrylic / 38% cotton / 10% polyamide 5% para-aramid / 1% elastolefin / 1% antistatic	♂		Blue, Black, Grey		Flame	A1+A2 B1 C1 E2 F1	Class 1	Lightning	Lightning	Lightning	eR SF
28 High-Vis-Multinorm HEAVY	52% cotton / 22% modacrylic / 19% viscose 6% para-aramid / 1% antistatic	♂		Yellow, Blue	Vest	Flame	A1+A2 B1 C1 [D3] E3 F1	Class 2	Lightning	Lightning	Lightning	HVM H
30 High-Vis-Multinorm LIGHT	42% modacrylic / 25% cotton 22% polyamide / 10% viscose / 1% antistatic	♂		Yellow, Blue	Vest	Flame	A1 B1 C1 F1	Class 1	Lightning	Lightning	Lightning	HVM L
32 High-Vis-Multinorm HEAVY	31% polyester / 28% modacrylic 20% aramid / 20% viscose FR 1% antistatic	♂		Orange, Blue	Vest	Flame	A1 B1 C1 E1 F1	Class 2	Lightning	Lightning	Lightning	HVM H
34 High-Vis-Multinorm LIGHT	31% polyester / 28% modacrylic 20% aramid / 20% viscose FR / 1% antistatic	♂		Orange, Blue	Vest	Flame	A1 B1 C1 E1 F1	Class 2	Lightning	Lightning	Lightning	HVM L
36 High-Multinorm HEAVY	52% cotton / 22% modacrylic / 19% viscose 6% para-aramid / 1% antistatic	♂		Blue		Flame	A1+A2 B1 C1 [D3] E3 F1	Class 2	Lightning	Lightning	Lightning	HMH
38 High-Multinorm LIGHT	42% modacrylic / 25% cotton 22% polyamide / 10% viscose / 1% antistatic	♂		Blue		Flame	A1 B1 C1 F1	Class 1	Lightning	Lightning	Lightning	HML
40 High-Vis-Multinorm WEATHER	55% modacrylic / 43% cotton 2% antistatic polyurethane membrane	♂		Yellow, Blue	Vest	Flame	A1 B1 C1 F1	Class 1	Lightning	Lightning	Lightning	HVMW
46 Multinorm Weather FLEECE	48% modacrylic / 32% cotton 18% polyester / 19% viscose 2% antistatic	♂		Yellow, Blue	Fleece	Flame	A1 B1 C2		Lightning	Lightning	Lightning	MWF
46 Multinorm Weather SOFTSHELL	38% modacrylic / 28% cotton / 17% aramid 7,5% polyester / 5% polyurethane / 4% polyamide 0,5% antistatic	♂		Blue, Grey		Flame	A1 B1 C2 F2	Class 2	Lightning	Lightning	Lightning	MWS



ITEM MATRIX

- TENCEL™ Lyocell and Modal fibers are made with at least 50% less carbon emissions and water consumption*
 - TENCEL™ Lyocell and Modal fibers are derived from the natural raw material wood
 - TENCEL™ Lyocell and Modal fibers support a natural dry feeling through moisture control

TENCEL™ is a brand of Lenzing AG

*Compared to generic (unbranded) lyocell and modal. Results based on LCA standards (ISO 14040/44) and available via Higg MSI (Version 3.8).



OEKO-TEX® STANDARD 100

- Compliance with legal requirements for textile-relevant chemicals
 - Annual re-evaluation and further development of defined limit values and criteria
 - Globally uniform and scientifically based test criteria

Learn more at
www.oeko-tex.com/standard-100

ecoRover

eR W

eR S

eR SP

eR SF

WELDER

320 g/m²



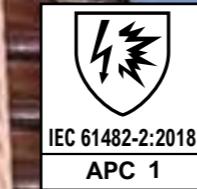
EN ISO 11612:2015
A1+A2 B1 C1 E2 F1



EN ISO 11611:2015
Class 2 A1+A2



EN 1149-5:2018



IEC 61482-2:2018
APC 1



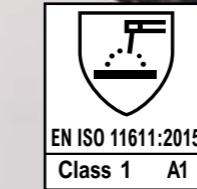
EN 13034:2005
+ A1:2009
Type 6
with/without
EN 13034

SAFETY

265 g/m²



EN ISO 11612:2015
A1 B1 C1 E1 F1



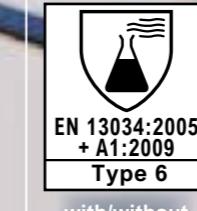
EN ISO 11611:2015
Class 1 A1



EN 1149-5:2018



IEC 61482-2:2018
APC 1



EN 13034:2005
+ A1:2009
Type 6
with/without
EN 13034

SAFETY PLUS

320 g/m²
+
175 g/m²



EN ISO 11612:2015
A1+A2 B1 C1 E2 F1



EN ISO 11611:2015
Class 2 A1+A2



EN 1149-5:2018



IEC 61482-2:2018
APC 2



EN 13034:2005
+ A1:2009
Type 6
with/without
EN 13034

SAFETY FLEX

270 g/m²



EN ISO 11612:2015
A1+A2 B1 C1 E2 F1



EN ISO 11611:2015
Class 1 A1+A2



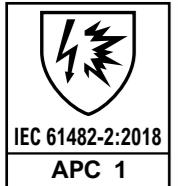
EN 1149-5:2018



IEC 61482-2:2020
APC 1



EN 13034:2005
+ A1:2009
Type 6
with/without
EN 13034

ATPV of fabric:
11 cal/cm²**Jacket****7500****Sizes:** 44 - 66, 90 - 114

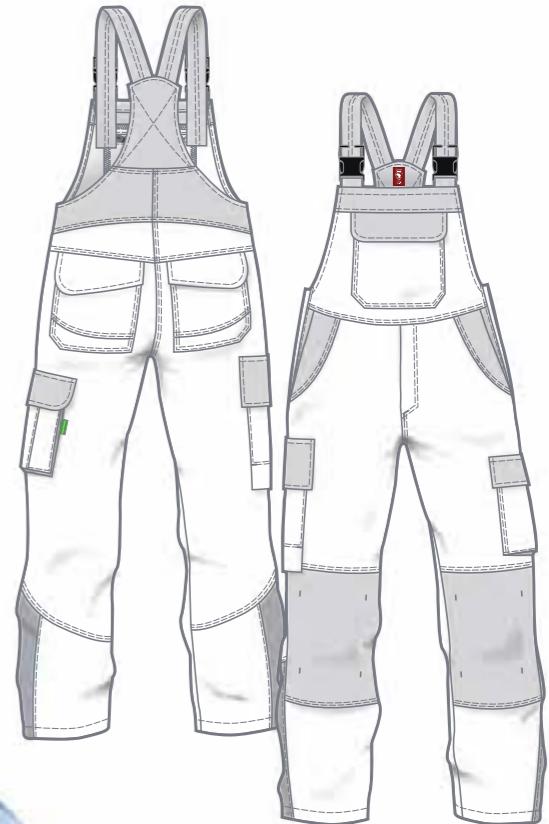
- Plastic buttons and zips
- Stand-up collar
- Front with hidden snap fasteners
- 2 chest pockets with flap and hidden snap fasteners
- 2 side pockets with flap and hidden snap fastener
- 1 inner chest pocket with hidden snap fastener
- Adjustable cuffs with snap fasteners

**Trousers****7501****Sizes:** 44 - 66, 90 - 114, 22 - 33

- Plastic buttons and zips
- 7 wide belt loops
- Waistband fastener with button
- Elasticated back waistband
- 2 side pockets
- 2 hip pockets with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fastener and velcro + attached phone pocket
- Zip fly
- Knee reinforcement with opening for knee pads, with velcro

988
black / grey**939**
navy blue / black / blue**Dungarees****7502****Sizes:** 44 - 66, 90 - 114, 22 - 33

- Plastic buttons and zips
- Adjustable elastic straps with side release buckles
- High bib back
- 1 bib pocket with flap and hidden snap fasteners
- 1 inner bib pocket with hidden zip
- 2 side pockets
- 2 hip pockets with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fastener and velcro + attached phone pocket
- 2 side fasteners with jeans button, snap fastener and gusset
- Zip fly
- Knee reinforcement with opening for knee pads, with velcro

**Inherent flame retardant****Material:**
47% modacrylic
32% cotton
20,5% polyamide
0,5% antistatic**Care:****OUTLINE 2025**
Replacement follows**ecoRover WELDER****GRÜNER KNOPF**

SÖZIAL, ÖKLOGISCHE STÄTIGKEIT,

UNABHÄNGIG ZERTIFIZIERT.

Supporting
THE INITIATIVE



ecoRover SAFETY

12



574
blue
navy blue / grey



939
navy blue
black / blue

988
black
grey

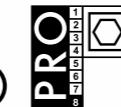
636
grey
black / red

262
grey
black

265 g/m²

Material:
48,5% modacrylic
34% cotton
17% polyamide
0,5% antistatic

Care:



Jacket

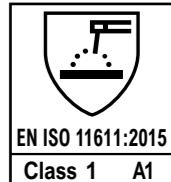
MEN'S 5400 6400
Sizes: 44 - 66, 90 - 114

LADIES' 5405 6405
Sizes: 36 - 56

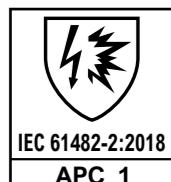
- Plastic buttons and zips
- Stand-up collar
- Front with hidden snap fasteners
- 2 chest pockets with flap and hidden snap fasteners
- 2 side pockets with flap and hidden snap fastener
- 1 inner chest pocket with hidden snap fastener
- Adjustable cuffs with snap fasteners



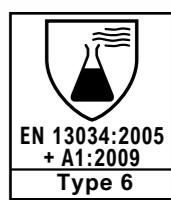
Logos
B



eRS



ATPV of fabric:
11 cal/cm²



with/without
EN 13034



Ladies' jacket

inherent flame retardant

Trousers

MEN'S 5401 6401
Sizes: 44 - 66, 90 - 114, 22 - 33

LADIES' 5406 6406
Sizes: 36 - 56

- Plastic buttons and zips
- 7 wide belt loops
- Waistband fastener with button
- Elasticated back waistband
- 2 side pockets
- 2 hip pockets with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fastener and velcro + attached phone pocket
- Zip fly
- Knee reinforcement with opening for knee pads, with velcro



939
navy blue /
black / blue



574
blue
navy blue / grey



988
black
grey



636
grey
black / red



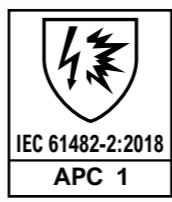
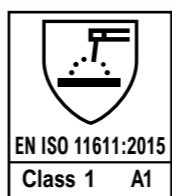
262
grey
black



ecoRover SAFETY



Ladies' trousers

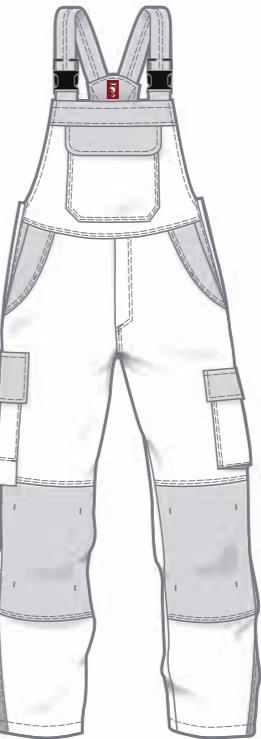


Dungarees

5402
 6402

Sizes: 44 - 66, 90 - 114, 22 - 33

- Plastic buttons and zips
- Adjustable elastic straps with side release buckles
- High bib back
- 1 bib pocket with flap and hidden snap fasteners
- 1 inner bib pocket with hidden zip
- 2 side pockets
- 2 hip pockets with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fastener and velcro + attached phone pocket
- 2 side fasteners with jeans button, snap fastener and gusset
- Zip fly
- Knee reinforcement with opening for knee pads, with velcro



574
blue
navy blue / grey



939
navy blue
black / blue



988
black
grey

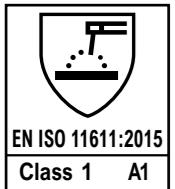
636
grey
black / red

262
grey
black

Material:
48,5% modacrylic
34% cotton
17% polyamide
0,5% antistatic

Care:





ATPV of fabric:
11 cal/cm²



with/without
EN 13034



Men's jacket

5400 311

6400 311

Sizes: 44 - 66, 90 - 114



Men's trousers

5401 301

6401 301

Sizes: 44 - 66, 90 - 114, 22 - 33

Dungarees

5402 301

6402 301

Sizes: 44 - 66, 90 - 114, 22 - 33



Ladies' jacket

5405 311

6405 311

Sizes: 36 - 56



Ladies' trousers

5406 301

6406 301

Sizes: 36 - 56



Colours



574

blue
navy blue / grey



939

navy blue
black / blue



988

black
grey



636

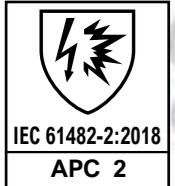
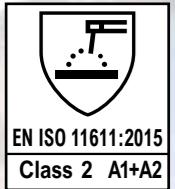
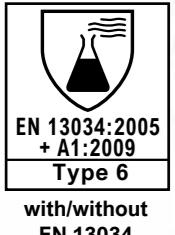
grey
black / red



262

grey
black

ecoRover SAFETY

ATPV of fabric:
11 cal/cm²

ecoRover SAFETY PLUS

320 g/m²
+
175 g/m²

Material:
47% modacrylic
32% cotton
20,5% polyamide
0,5% antistatic

Lining:
48,5% modacrylic
32% cotton
17% polyamide
0,5% antistatic

Care:

Jacket

4900



6900

988
black
grey**Sizes:** 44 - 66, 90 - 114

- Plastic buttons and zips
- Stand-up collar
- Front with hidden snap fasteners
- 2 chest pockets with flap and hidden snap fasteners
- 2 side pockets with flap and hidden snap fastener
- 1 inner chest pocket with hidden snap fastener
- Adjustable cuffs with snap fasteners



Trousers

4901
6901**Sizes:** 44 - 66, 90 - 114, 22 - 33

- Plastic buttons and zips
- 7 wide belt loops
- Waistband fastener with button
- Elasticated back waistband
- 2 side pockets
- 2 hip pockets with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fastener and velcro + attached phone pocket
- Zip fly
- Knee reinforcement with opening for knee pads, with velcro

574
blue
navy blue / grey939
navy blue
black / blue636
grey
black / red

inherent flame retardant

574
blue
navy blue / grey939
navy blue
black / blue636
grey
black / red988
black
grey

Colours



574
blue
navy blue / grey



939
navy blue
black / blue



988
black
grey



636
grey
black / red



939
navy blue
black / blue

636
grey
black / red

988
black
grey

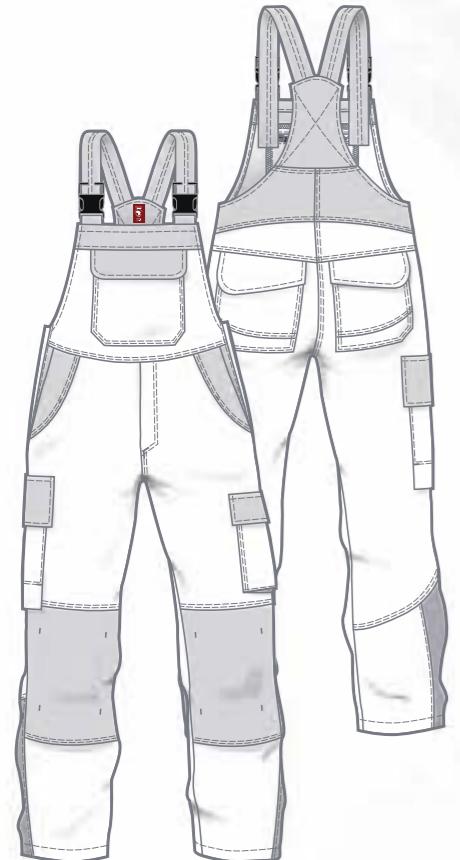
574
blue
navy blue / grey

Dungarees

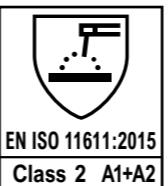
4902 6902

Sizes: 44 - 66, 90 - 114, 22 - 33

- Plastic buttons and zips
- Adjustable elastic straps with side release buckles
- High bib back
- 1 bib pocket with flap and hidden snap fasteners
- 1 inner bib pocket with hidden zip
- 2 side pockets
- 2 hip pockets with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fastener and velcro + attached phone pocket
- 2 side fasteners with jeans button, snap fastener and gusset
- Zip fly
- Knee reinforcement with opening for knee pads, with velcro

**ecoRover SAFETY PLUS**

inherent flame retardant



ATPV of fabric:
11 cal/cm²



with/without
EN 13034



320 g/m²
+
175 g/m²

**Jacket**

4900 311

6900 311

Sizes: 44 - 66
90 - 114

Trousers

4901 301

6901 301

Sizes: 44 - 66
90 - 114
22 - 33

**Dungarees**

4902 301

6902 301

Sizes: 44 - 66
90 - 114
22 - 33



+ Reflex

Material:
47% modacrylic
32% cotton
20,5% polyamide
0,5% antistatic

Lining:
48,5% modacrylic
34% cotton
17% polyamide
0,5% antistatic

Care:





NEW



EN ISO 11612:2015

A1+A2 B1 C1 E2 F1



EN ISO 11611:2015

Class 1 A1+A2



EN 1149-5:2018



EN 61482-2:2020

APC 1



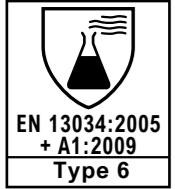
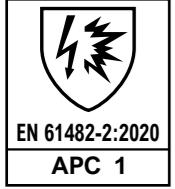
EN 13034:2005

+ A1:2009

Type 6

with/without
EN 13034

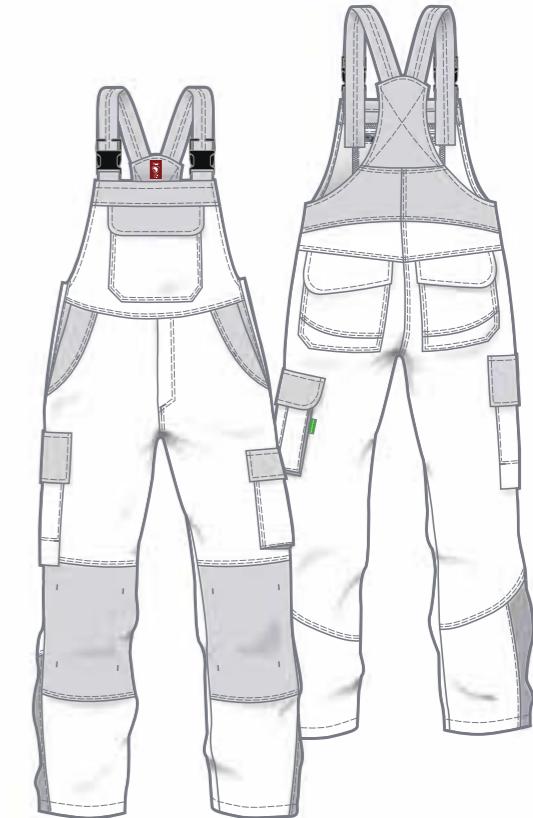
ecoRover SAFETY FLEX



988
black / grey



939
navy blue / black / blue



inherent flame retardant

Jacket



Sizes: 44 - 66, 90 - 114

- Plastic buttons and zips
- Stand-up collar
- Front with hidden snap fasteners
- 2 chest pockets with flap and hidden snap fasteners
- 2 side pockets with flap and hidden snap fastener
- 1 inner chest pocket with hidden snap fastener
- Adjustable cuffs with snap fasteners



Trousers



Sizes: 44 - 66, 90 - 114, 22 - 33

- Plastic buttons and zips
- 7 wide belt loops
- Waistband fastener with button
- Elasticated back waistband
- 2 side pockets
- 2 hip pockets with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fastener and velcro + attached phone pocket
- Zip fly
- Knee reinforcement with opening for knee pads, with velcro

Dungarees



Sizes: 44 - 66, 90 - 114, 22 - 33

- Plastic buttons and zips
- Adjustable elastic straps with side release buckles
- High bib back
- 1 bib pocket with flap and hidden snap fasteners
- 1 inner bib pocket with hidden zip
- 2 side pockets
- 2 hip pockets with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fastener and velcro + attached phone pocket
- Lateral stretch inserts
- Zip fly
- Knee reinforcement with opening for knee pads, with velcro

ecoRover SAFETY FLEX



Material:

45% modacrylic / 38% cotton
10% polyamide / 5% para-aramid
1% elastolefin / 1% antistatic

Care:



High-Vis-Multinorm

HEAVY **LIGHT**

450 g/m² 250 g/m²

EN ISO 20471:2013 + A1:2016 EN ISO 20471:2013 + A1:2016

EN ISO 11612:2015 A1+A2 B1 C1 D3 E3 F1 EN ISO 11612:2015 A1 B1 C1 E1 F1

EN ISO 11611:2015 Class 2 A1+A2 EN ISO 11611:2015 Class 1 A1

EN 1149-5:2018 EN 1149-5:2018

IEC 61482-2:2018 APC 2 IEC 61482-2:2018 APC 1

EN 13034:2005 + A1:2009 Type 6 EN 13034:2005 + A1:2009 Type 6

HEAVY **LIGHT**

320 g/m² + 170 g/m² 320 g/m²

EN ISO 20471:2013 + A1:2016 EN ISO 20471:2013 + A1:2016

EN ISO 11612:2015 A1 B1 C1 E1 F1 EN ISO 11612:2015 A1 B1 C1 E1 F1

EN ISO 11611:2015 Class 2 A1+A2 EN ISO 11611:2015 Class 1 A1

EN 1149-5:2018 EN 1149-5:2018

IEC 61482-2:2020 APC 2 IEC 61482-2:2020 APC 1

EN 13034:2005 + A1:2009 Type 6 EN 13034:2005 + A1:2009 Type 6

High-Multinorm

■ Back with emblem (PPE symbols)

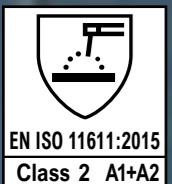
■ Knee reinforcement with opening for knee pads

■ Cargo pockets inside with phone pocket

WHW H WHW H WHW H WHW H WHW H WHW H



2

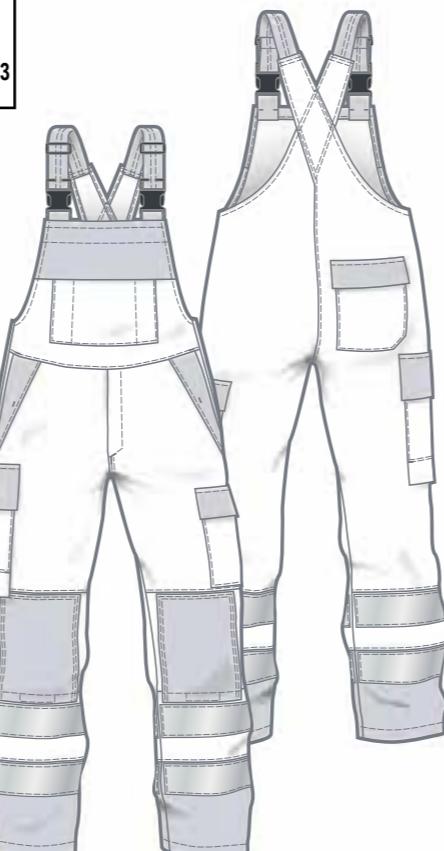
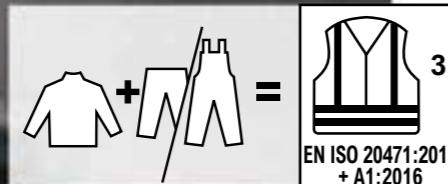
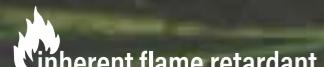
EN ISO 20471:2013
+ A1:2016EN ISO 11612:2015
A1+A2 B1 C1 D3 E3 F1EN ISO 11611:2015
Class 2 A1+A2

EN 1149-5:2018

IEC 61482-2:2018
APC 2ATPV of fabric:
18 cal/cm²with/without
EN 13034

High-Vis-Multinorm

HEAVY



Care:



911
high-vis yellow
navy blue

Jacket

- | | |
|----|------|
| D3 | 6080 |
| D3 | 6180 |
| D3 | 7080 |
| D3 | 7180 |

Sizes: 44 - 66
90 - 114

- Plastic buttons and zips
- Stand-up collar
- Front has zip and hidden snap fasteners
- 2 chest pockets with flap and hidden snap fasteners
- 2 side pockets with velcro flaps
- 1 inner phone pocket with velcro tab
- Adjustable cuffs with velcro tabs
- 2 reflective stripes on torso and sleeves, 1 reflective stripe on shoulders (5 cm / 2 inch wide)

Trousers

- | | |
|----|------|
| D3 | 6081 |
| D3 | 6181 |
| D3 | 7081 |
| D3 | 7181 |

Sizes: 44 - 66
90 - 114
22 - 33

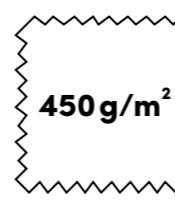
- Plastic buttons and zips
- 7 belt loops
- Waistband with hidden button
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners + inner phone pocket
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Knee reinforcement with opening for knee pads, with velcro
- Zip fly
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)

Dungarees

- | | |
|----|------|
| D3 | 6082 |
| D3 | 6182 |
| D3 | 7082 |
| D3 | 7182 |

Sizes: 44 - 66
90 - 114
22 - 33

- Plastic buttons and zips
- 1 large bib pocket with flap and snap fasteners + attached side pocket with 2 pen holders
- 2 side fasteners with button, snap fastener and gusset
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners + inner phone pocket
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Knee reinforcement with opening for knee pads, with velcro
- Zip fly
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)

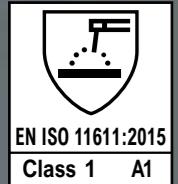


Material:

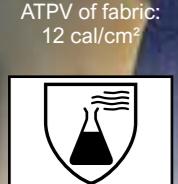
52% cotton / 22% modacrylic
19% viscose / 6% para-aramid / 1% antistatic



2

EN ISO 11612:2015
A1 B1 C1 F1EN ISO 11611:2015
Class 1 A1

EN 1149-5:2018

IEC 61482-2:2018
APC 1with/without
EN 13034

911

high-vis yellow / navy blue

**Jacket**

4170

5170

Sizes: 44 - 66
90 - 114

- Plastic buttons and zips
- Stand-up collar
- Front has zip and hidden snap fasteners
- 2 chest pockets with flap and hidden snap fasteners
- 2 side pockets with velcro flaps
- 1 inner phone pocket with velcro tab
- Adjustable cuffs with velcro tabs
- 2 reflective stripes on torso and sleeves, 1 reflective stripe on shoulders (5 cm / 2 inch wide)

**High-Vis-Multinorm
LIGHT**911
high-vis yellow
navy blue**Trousers**

4171

5171

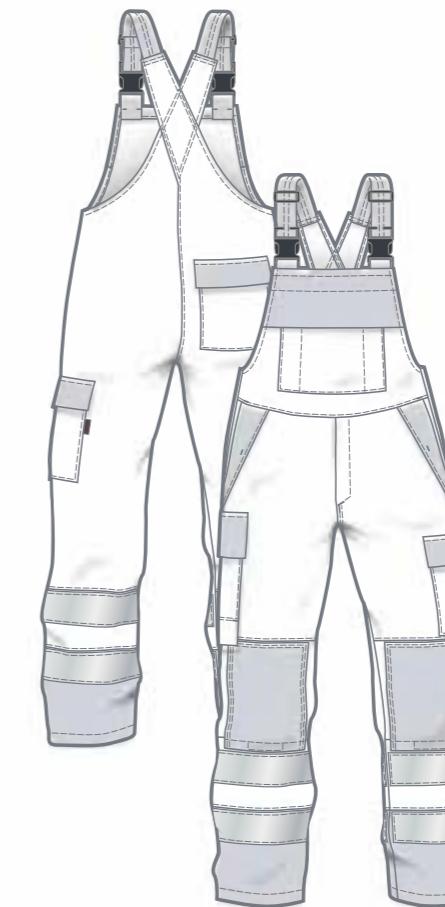
Sizes: 44 - 66
90 - 114
22 - 33

- Plastic buttons and zips
- 7 belt loops
- Waistband with hidden button
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners + inner phone pocket
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Knee reinforcement with opening for knee pads, with velcro
- Zip fly
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)

911
high-vis yellow
navy blue**Dungarees**

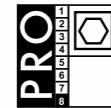
4172

5172

Sizes: 44 - 66
90 - 114
22 - 33

- Plastic buttons and zips
- 1 large bib pocket with flap and snap fasteners + attached side pocket with 2 pen holders
- 2 side fasteners with button, snap fastener and gusset
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners + inner phone pocket
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Knee reinforcement with opening for knee pads, with velcro
- Zip fly
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)

inherent flame retardant

Care:250 g/m²**Material:**
42% modacrylic
25% cotton
22% polyamide
10% viscose
1% antistatic

Jacket

-  5220
 5230

Sizes: 44 - 66
90 - 114

- With Lining
- Plastic buttons and zips
- Stand-up collar
- Front has zip and hidden snap fasteners
- 2 chest pockets with flap and hidden snap fasteners
- 2 side pockets with velcro flaps
- 1 inner phone pocket with velcro tab
- Adjustable cuffs with velcro tabs
- 2 reflective stripes on torso and sleeves, 1 reflective stripe on shoulders (5 cm / 2 inch wide)

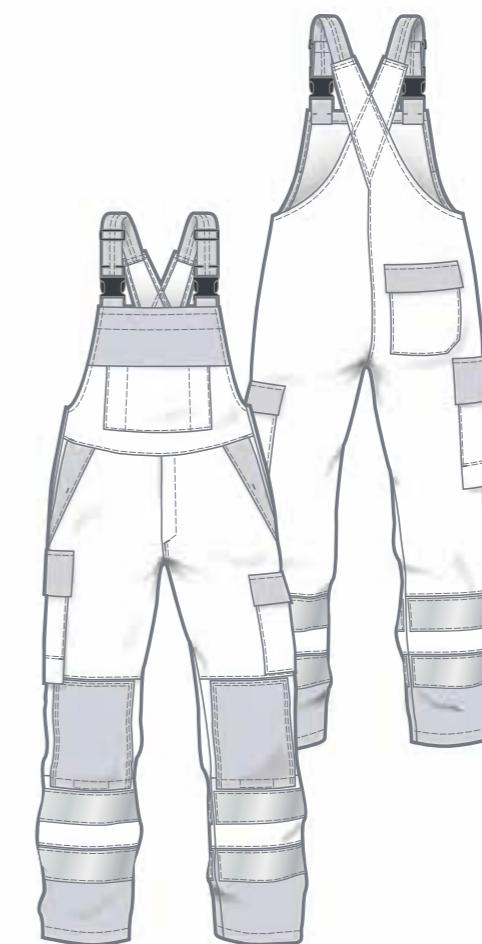
**Trousers**

-  5221
 5231

929
high-vis orange
navy blue

Sizes: 44 - 66
90 - 114
22 - 33

- With Lining
- Plastic buttons and zips
- 7 belt loops
- Waistband with hidden button
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners + inner phone pocket
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Knee reinforcement with opening for knee pads, with velcro
- Zip fly
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)

**Dungarees**

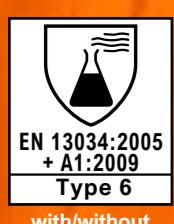
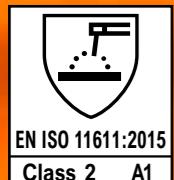
-  5222
 5232

Sizes: 44 - 66
90 - 114
22 - 33

- With Lining
- Plastic buttons and zips
- 1 large bib pocket with flap and snap fasteners + attached side pocket with 2 pen holders
- 2 side fasteners with button, snap fastener and gusset
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners + inner phone pocket
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Knee reinforcement with opening for knee pads, with velcro
- Zip fly
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)

High-Vis-Multinorm

HEAVY



Inherent flame retardant
with/without
EN 13034

Care:

**Material:**

31% polyester / 28% modacrylic / 20% aramid
20% Viscose FR / 1% antistatic

Lining:

30% modacrylic / 30% viscose / 20% cotton
19% polyamide / 1% antistatic

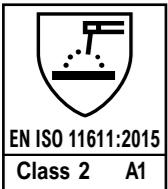
**Jacket**

5120

5130

Sizes: 44 - 66
90 - 114

- Plastic buttons and zips
- Stand-up collar
- Front has zip and hidden snap fasteners
- 2 chest pockets with flap and hidden snap fasteners
- 2 side pockets with velcro flaps
- 1 inner phone pocket with velcro tab
- Adjustable cuffs with velcro tabs
- 2 reflective stripes on torso and sleeves, 1 reflective stripe on shoulders (5 cm / 2 inch wide)



320 g/m²

Material:

31% polyester / 28% modacrylic
20% aramid / 20% Viscose FR
1% antistatic

Care:

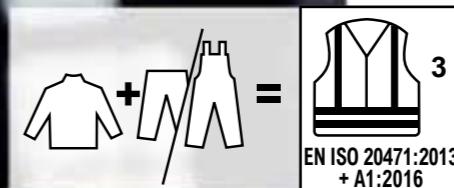
929
high-vis orange
navy blue



High-Vis-Multinorm

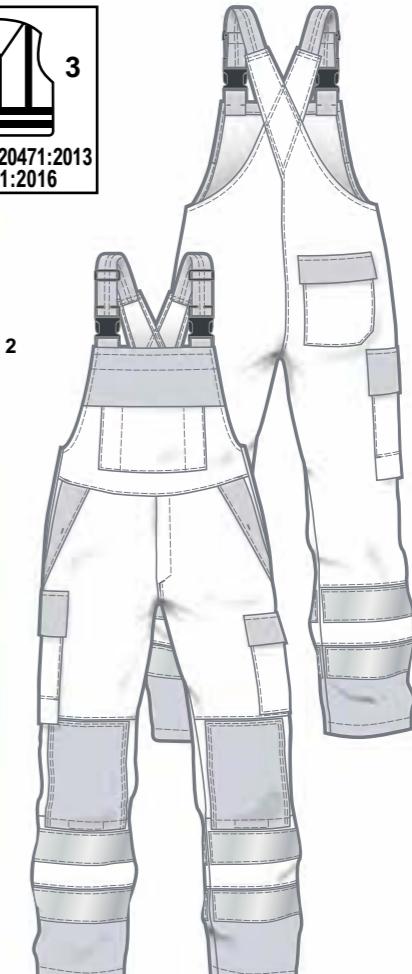
LIGHT

inherent flame retardant

**Jacket + Shirt**

APC 2

5120 + LD625 > 80



929
high-vis orange
navy blue

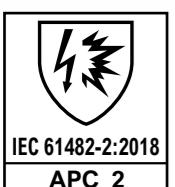
Dungarees

5122

5132

Sizes: 44 - 66, 90 - 114 , 22 - 33

- Plastic buttons and zips
- 1 large bib pocket with flap and snap fasteners + attached side pocket with 2 pen holders
- 2 side fasteners with button, snap fastener and gusset
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners + inner phone pocket
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Knee reinforcement with opening for knee pads, with velcro
- Zip fly
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)



ATPV of fabric:
18 cal/cm²

**High-Multinorm
HEAVY**

Jacket

- Flame icon D3 4080
- Flame icon D3 4280
- Flame icon D3 5180
- Flame icon D3 5280

Sizes: 44 - 66
90 - 114

- Plastic buttons and zips
- Stand-up collar
- Front has zip and hidden snap fasteners
- 2 chest pockets with flap and hidden snap fasteners
- 2 side pockets with velcro flaps
- 1 inner phone pocket with velcro tab
- Adjustable cuffs with velcro tabs
- 2 reflective stripes on torso and sleeves, 1 reflective stripe on shoulders (5 cm / 2 inch wide)

048
navy blue

Care:

Inherent flame retardant



048
navy blue

Trousers

- | | | |
|--|--|------|
| | | 4081 |
| | | 4281 |
| | | 5181 |
| | | 5281 |

Sizes: 44 - 66
90 - 114
22 - 33

- Plastic buttons and zips
- 7 belt loops
- Waistband with hidden button
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners + inner phone pocket
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Knee reinforcement with opening for knee pads, with velcro
- Zip fly
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)

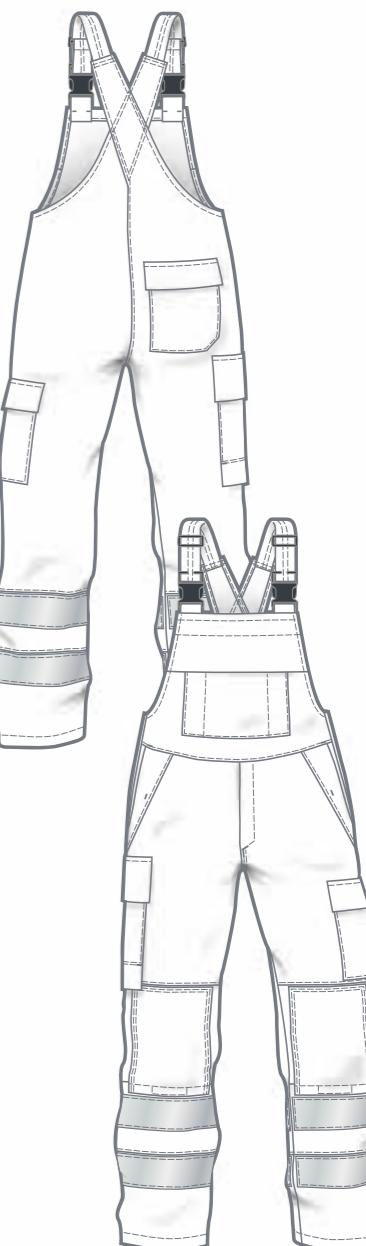
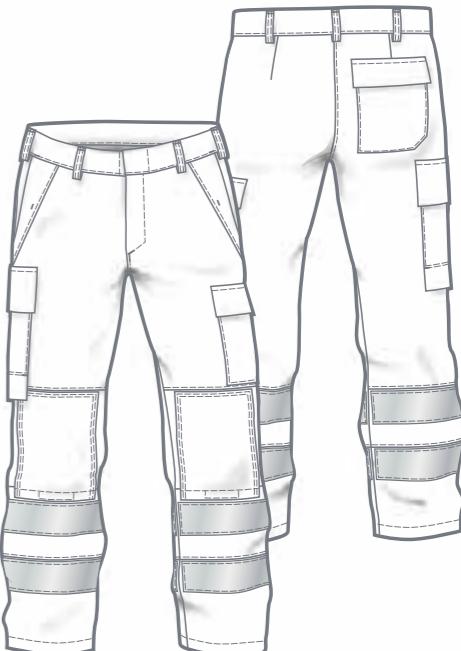


Dungarees

- | | | |
|--|--|------|
| | | 4082 |
| | | 4282 |
| | | 5182 |
| | | 5282 |

Sizes: 44 - 66
90 - 114
22 - 33

- Plastic buttons and zips
- 1 large bib pocket with flap and snap fasteners + attached side pocket with 2 pen holders
- 2 side fasteners with button, snap fastener and gusset
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners + inner phone pocket
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Knee reinforcement with opening for knee pads, with velcro
- Zip fly
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)



High-Multinorm

LIGHT

Jacket + Shirt



6170 +
6370

LD822
LD822BI
4173R, 5173R
6173R, 6373R

► 80
► 82

inherent flame retardant



Material:
42% modacrylic / 25% cotton
22% polyamide / 10% viscose
1% antistatic



Jacket

6170

6370

Sizes: 44 - 66
90 - 114

ATPV of fabric:
12 cal/cm²

- Plastic buttons and zips
- Stand-up collar
- Front has zip and hidden snap fasteners
- 2 chest pockets with flap and hidden snap fasteners
- 2 side pockets with velcro flaps
- 1 inner phone pocket with velcro tab
- Adjustable cuffs with velcro tabs
- 2 reflective stripes on torso and sleeves, 1 reflective stripe on shoulders (5 cm / 2 inch wide)

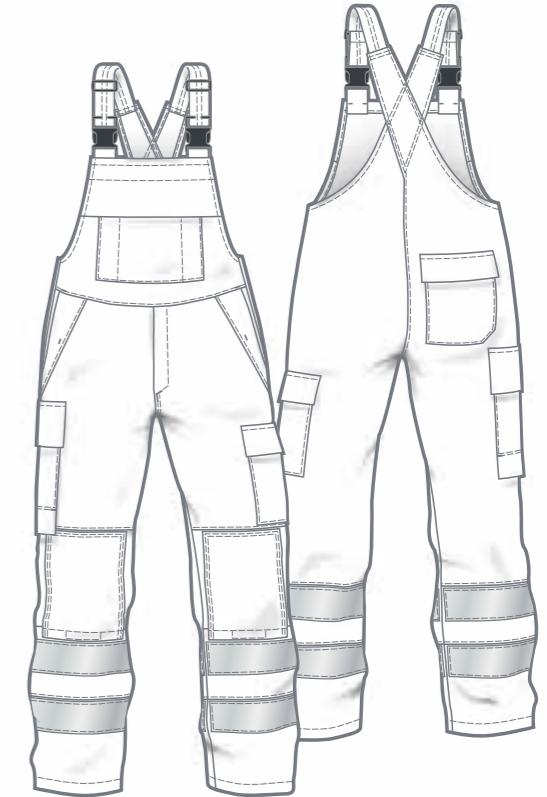


Trousers

048
navy blue



Care:



Dungarees

6172

6372

Sizes: 44 - 66
90 - 114
22 - 33

- Plastic buttons and zips
- 1 large bib pocket with flap and snap fasteners + attached side pocket with 2 pen holders
- 2 side fasteners with button, snap fastener and gusset
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners + inner phone pocket
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Knee reinforcement with opening for knee pads, with velcro
- Zip fly
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)



High-Vis-Multinorm WEATHER

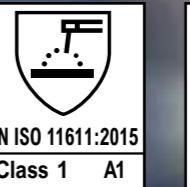
315 g/m²
+
170 g/m²



EN ISO 20471:2013
+ A1:2016



EN ISO 11612:2015
A1 B1 C1 F1



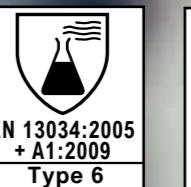
EN ISO 11611:2015
Class 1 A1



EN 1149-5:2018



IEC 61482-2:2018
APC 2



EN 13034:2005
+ A1:2009
Type 6



EN 343:2019
3
3
X

High-Vis-Multinorm WEATHER



■ Jacket with lining
■ 2-way-zip



■ Embroidery on flap (PPE symbols)



■ Trousers with lining
■ With elasticated adjustable band



■ Adjustable trouser legs
with tab and velcro





Jacket

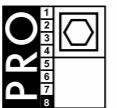
4290

Sizes: XS - 5XL
S-L - 2XL-L

- Completely lined
- Fleece jacket 6083 (Page 47) can be combined to add warmth
- Plastic buttons and zips
- Stand-up collar with hood compartment
- Hood (4290001) can be buttoned on
- Front with zip and hidden snap fasteners
- 2 chest pockets with flap and velcro
- 2 side pockets with flap and velcro
- 1 inner chest pocket with velcro
- Adjustable cuffs with tab and velcro
- Waist and hem with drawstring
- Longer back
- 2 reflective stripes on torso and sleeves, 1 reflective stripe on shoulders

inherent flame retardant

Care:



911
high-vis yellow
navy blue



3



Trousers

4291

Sizes: XS - 5XL
S-L - 2XL-L
S-K - 3XL-K

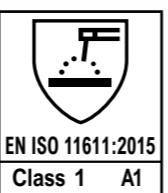
- Completely lined
- Plastic buttons and zips
- Adjustable elasticated rubber braces, sewn on tightly
- Waistband fastener with hidden button
- 7 belt loops
- Elasticated adjustable back waistband
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and velcro
- 1 cargo pocket (bellow pocket - rear and bottom) with flap and velcro
- 1 ruler pouch with flap and velcro
- Zip fly
- Adjustable leg hems with tab and velcro
- 2 reflective stripes on legs (5 cm)



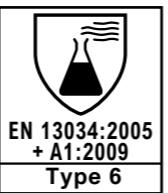
1



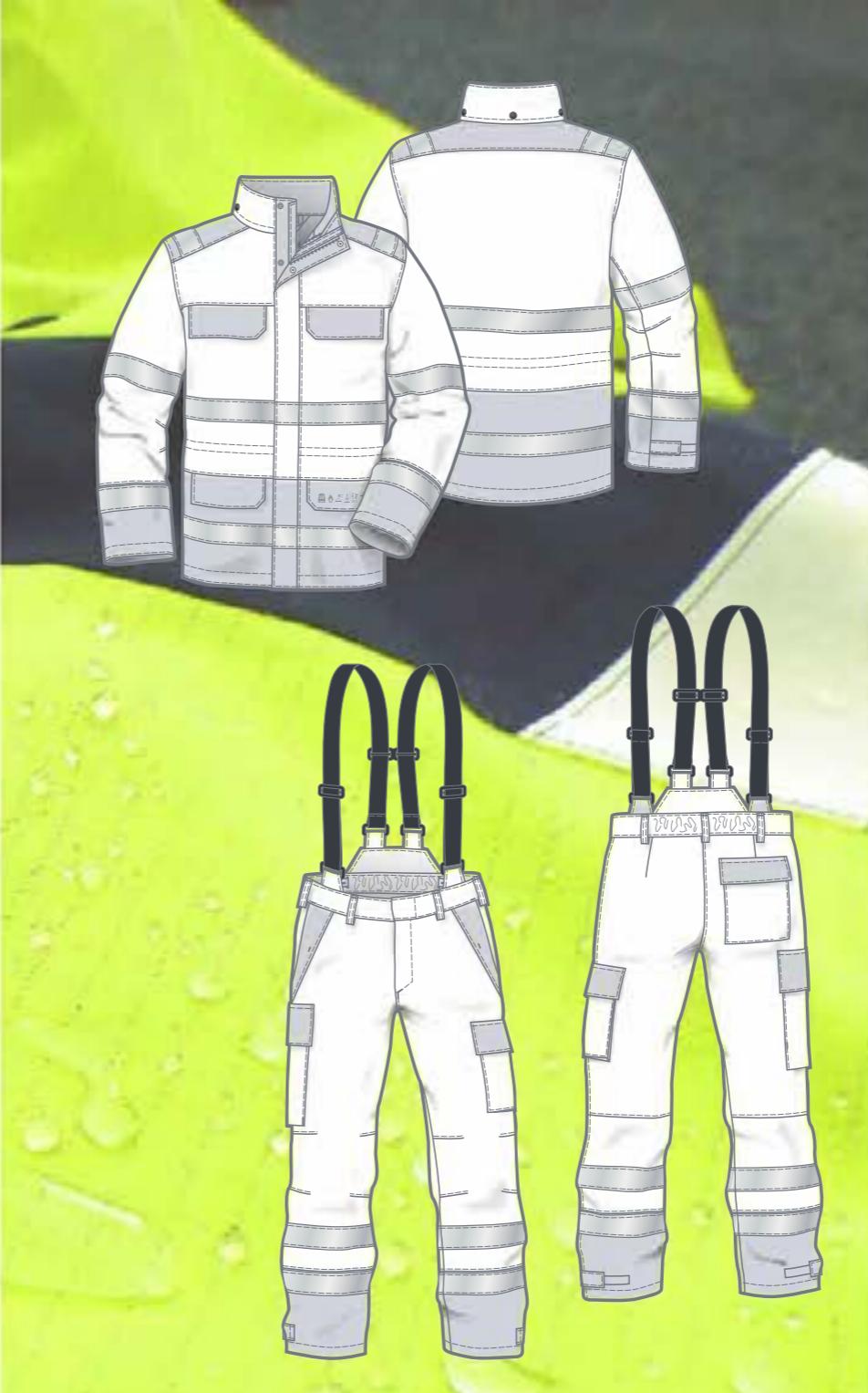
A1 B1 C1 F1



Class 1 A1



3
3
X

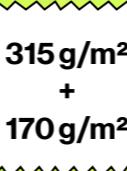


High-Vis-Multinorm WEATHER



3 Water transmission resistance
water column > 1.500 mm

3 Water vapour transmission resistance (incl. lining)
 R_{et} 17 m²Pa/W



Material:
55% modacrylic / 43% cotton / 2% antistatic polyurethane membrane

Lining:

55% modacrylic / 43% cotton / 2% antistatic



911
high-vis yellow

Hood

4290 001

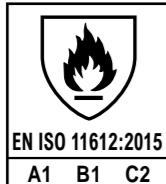
Size: 0

- Hood can be attached to jacket (4290) with press studs
- Adjustable elastic cord
- With back tab and velcro



EN ISO 20471:2013
+ A1:2016

3



EN ISO 11612:2015

A1 B1 C2



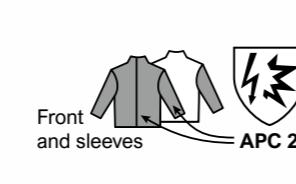
EN ISO 11611:2015

Class 2 A1



EN 1149-5:2018

APC 1

EN 61482-2:2020
APC 2

Front and sleeves

F

Hi Vis Fleece jacket

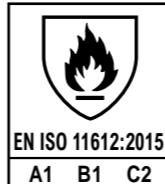
6084

Sizes: XS - 5XL
S-L - 2XL-L

- Front and sleeves lined
- Can be combined to add warmth in Weather jacket: **4290** ➤⁴⁴
- Stand-up collar
- Front with zip and hidden snap fasteners
- 2 inner chest pockets with velcro, left with pen compartment
- 2 side pockets with zip and velcro
- Adjustable hem with elasticated band
- Torso and sleeves with 2 reflective stripes, 1 reflective stripe on shoulders (5 cm / 1 inch wide)

911
high-vis yellow / navy blue360 g/m²
+
170 g/m²**Material:** 48% modacrylic / 32% cotton
18% polyester / 2% antistatic**Lining:** 30% modacrylic type F / 30% viscose
20% cotton / 19% polyamide / 1% antistatic

Care:



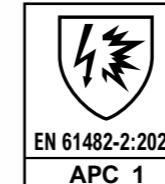
EN ISO 11612:2015

A1 B1 C2



EN 1149-5:2018

APC 1



EN 61482-2:2020

APC 2

Front and sleeves

F

Fleece jacket

6083

Sizes: XS - 5XL
S-L - 2XL-L

- Front and sleeves lined
- Can be combined to add warmth in Weather jacket: **4290** ➤⁴⁴
- Stand-up collar
- Front with zip and hidden snap fasteners
- 2 inner chest pockets with velcro, left with pen compartment
- 2 side pockets with zip and velcro
- Adjustable hem with elasticated band

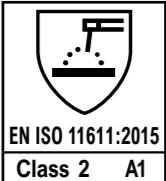
085
dark navy blue**Material:** 48% modacrylic / 32% cotton
18% polyester / 2% antistatic**Lining:** 30% modacrylic type F / 30% viscose
20% cotton / 19% polyamide / 1% antistatic

Care:



EN ISO 11612:2015

A1 B1 C2 F2



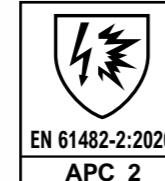
EN ISO 11611:2015

Class 2 A1



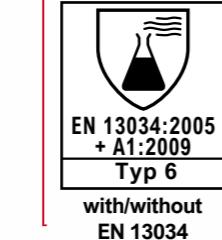
EN 1149-5:2018

APC 2



EN 61482-2:2020

APC 2

ATPV of fabric:
10 cal/cm²EN 13034:2005
+ A1:2009Typ 6
with/without
EN 13034**Material:**

38% modacrylic / 28% cotton
17% aramid / 7,5% polyester
5% polyurethane / 4% polyamide
0,5% antistatic
multilayer laminate with
polyurethane membrane
and fleece inside

Care:



ecoRover SAFETY PLUS

N

921
navy blue
black699
dark grey
black

Softshell jacket

4908

6908

**Sizes:** XS - 4XL
S-L - XL-L

- Stand-up collar
- Front with zip and velcro, hem bottom with snap fastener
- 1 left chest pocket, with zip and velcro
- 2 side pockets with zip
- 1 inner left chest pocket, with zip + pen pocket
- Seam with elasticated adjustable waistband
- Shoulder, sleeves and torso with reflective stripes



MWF

MWS

430 g/m²340 g/m²

EN ISO 11612:2015
A1+A2 B1 C1 **D3** E3 F1
with/without D3



EN ISO 11612:2015
A1+A2 B1 C1 **D2** E2 F1
with/without D2



EN ISO 11611:2015
Class 2 A1+A2



EN ISO 11611:2015
Class 1 A1+A2



EN 1149-5:2018



EN 1149-5:2018



EN 61482-2:2020
APC 1



EN 61482-2:2020
APC 1

Foundry + Welder

HEAVY

+

LIGHT



ATPV of fabric:
15,4 cal/cm²

Foundry + Welder

HEAVY



346
blue
navy blue



524
navy blue
blue



742
navy blue
grey



840
grey
navy blue



330
grey
orange



Jacket



Sizes: 44 - 66
90 - 114

- Stand-up collar
- Hidden snap fastener placket
- 2 chest pockets with integrated flap and hidden snap fastener
- 2 side pockets with flap and velcro
- 1 inner chest pocket left, with snap fastener
- Adjustable cuffs with snap fasteners

optional:

- Without ISO 11612 - D3 (molten aluminium)
- Sleeves and shoulders with 1 reflective stripe

430 g/m²

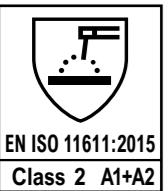
Material:
52% cotton
37% modacrylic
10% viscose
1% antistatic

Care:

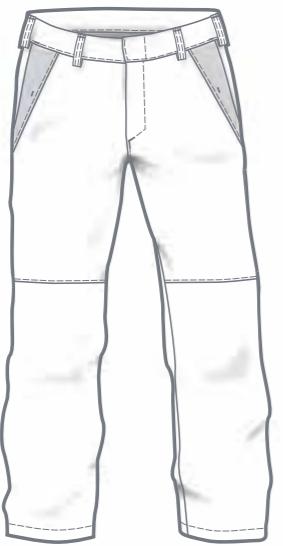
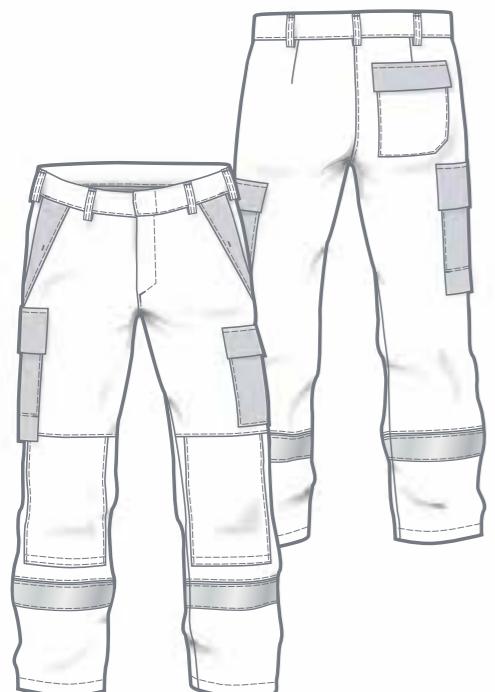




Foundry + Welder HEAVY



ATPV of fabric:
15,4 cal/cm²



Trousers

- D3 6101 R
- D3 6111 R
- D3 6101 000 R
- D3 6111 000 R
- D3 6101 777 R
- D3 6111 777 R
- D3 6101 311 R
- D3 6111 311 R
- D3 6101 999 R
- D3 6111 999 R

Sizes: 44 - 66
90 - 114
22 - 33

- 7 belt loops
- Waistband fastener with hidden jeans button
- Zip fly
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners
- 1 reinforced ruler pouch
- With flap and hidden snap fasteners

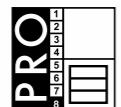
optional:

- Without ISO 11612 - D3 (molten aluminium)
- Without cargo pocket, ruler pouch
- Knee reinforcement with opening for knee pads, with velcro
- Each leg with 1 reflective stripe

430 g/m²

Material:
52% cotton
37% modacrylic
10% viscose
1% antistatic

Care:



346
blue / navy blue



524
navy blue / blue



840
grey / navy blue



Dungarees

- D3 6102 R
- D3 6112 R
- D3 6102 000 R
- D3 6112 000 R
- D3 6102 777 R
- D3 6112 777 R
- D3 6102 311 R
- D3 6112 311 R
- D3 6102 999 R
- D3 6112 999 R

Sizes: 44 - 66
90 - 114
22 - 33

- Adjustable elastic straps with side release buckles
- High bib back
- 1 large bib pocket with flap and hidden snap fastener + attached pocket, with 2 pen holders
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- Zip fly
- 2 side fasteners with jeans button, snap fastener and gusset



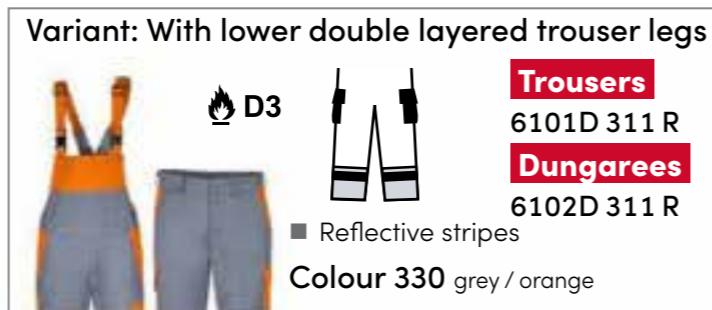
346
blue / navy blue

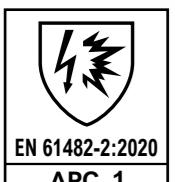
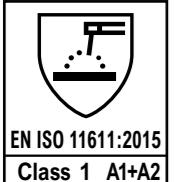


524
navy blue / blue



330
grey / orange





ATPV of
fabric:
9,7 cal/cm²



346
blue
navy blue



524
navy blue
blue

840
grey
navy blue

330
grey
orange



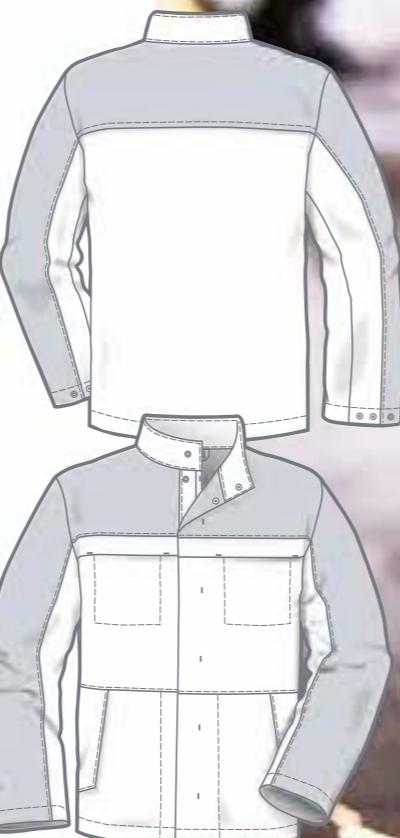
Sizes: 44 - 66
90 - 114

- Stand-up collar
- Hidden snap fastener placket
- 2 chest pockets with integrated flap and hidden snap fastener
- 2 side pockets with flap and velcro
- 1 inner chest pocket left, with snap fastener
- Adjustable cuffs with snap fasteners

340 g/m²

Material:
50% cotton
39% modacrylic
10% viscose
1% antistatic

Care:

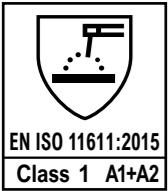


FW 1

Logos G



Foundry + Welder LIGHT



ATPV of
fabric:
9,7 cal/cm²



346
blue / navy blue



524
navy blue / blue

840
grey / navy blue

330
grey / orange



Trousers

- D2 6201 R
- D2 6221 R
- D2 6201 000 R
- D2 6221 000 R
- D2 6201 777 R
- D2 6221 777 R
- D2 6201 311 R
- D2 6221 311 R
- D2 6201 999 R
- D2 6221 999 R

Sizes: 44 - 66
90 - 114
22 - 33

- 7 belt loops
- Waistband fastener with hidden jeans button
- Zip fly
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners
- 1 reinforced ruler pouch
- With flap and hidden snap fasteners

optional:

- Without ISO 11612 - D2 (molten aluminium)
- Without cargo pocket, ruler pouch
- Knee reinforcement with opening for knee pads, with velcro
- Each leg with 1 reflective stripe

Material:

50% cotton
39% modacrylic
10% viscose
1% antistatic

Care:



Dungarees

- D2 6202 R
- D2 6222 R
- D2 6202 000 R
- D2 6222 000 R
- D2 6202 777 R
- D2 6222 777 R
- D2 6202 311 R
- D2 6222 311 R
- D2 6202 999 R
- D2 6222 999 R

Sizes: 44 - 66
90 - 114
22 - 33

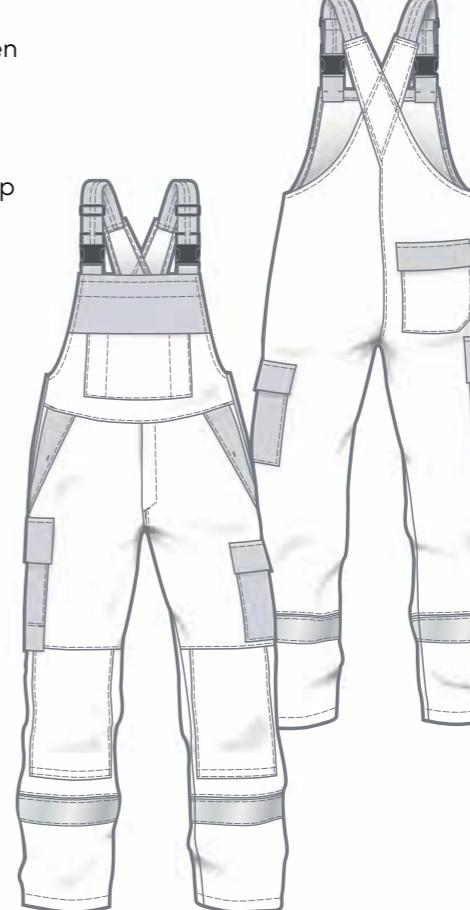
- Adjustable elastic straps with side release buckles
- High bib back
- 1 large bib pocket with flap and hidden snap fastener + attached pocket, with 2 pen holders
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- Zip fly
- 2 side fasteners with jeans button, snap fastener and gusset

optional:

- Without ISO 11612 - D2 (molten aluminium)
- Without cargo pocket, ruler pouch
- Knee reinforcement with opening for knee pads, with velcro
- Each leg with 1 reflective stripe



346
blue / navy blue



524
navy blue / blue

840
grey / navy blue



330
grey / orange

Welder

CLASS 1



flame retardant
equipped



159
blue



008
grey

WC1

Jacket

5205

Sizes: 44/46 - 64/66
90/94 - 114/118

- Lapel/turn down collar
- Hidden snap fastener placket
- 2 side pockets accessible from the sides with hidden snap fastener
- 1 left chest pocket with integrated flap and hidden snap fastener
- 1 inner right chest pocket
- Adjustable sleeve cuffs
- Ventilation openings at chest height and back yoke



350 g/m²
Material:
64% cotton
35% polyester
1% antistatic

Care:



Logos



159
blue

008
grey

Trousers

5201

Sizes: 44 - 66
90 - 114
22 - 33

- 7 belt loops
- 2 side pockets with snap fastener
- 1 cargo pocket with flap and snap fastener
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Zip fly



Welder

CLASS 1



flame retardant
equipped



159
blue

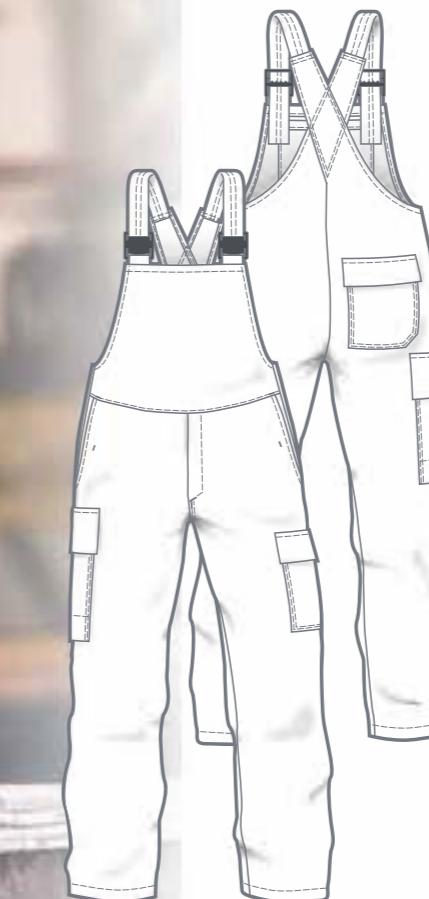
008
grey

Dungarees

5202 000

Sizes: 44 - 66
90 - 114
22 - 33

- Adjustable elastic straps
- High back
- 1 inner bib pocket with velcro
- 1 adjustable side fastener
- 2 side pockets with snap fastener
- 1 cargo pocket with flap and snap fastener
- 1 internally and externally reinforced ruler pouch with flap and hidden snap fasteners
- Zip fly



Material:
350 g/m²
64% cotton
35% polyester
1% antistatic

Care:



Welder

CLASS 2

flame retardant
equipped



EN ISO 11611:2015
Class 2 A1+A2



EN ISO 11612:2015
A1+A2 B1 C1 E2 F1



008
grey

Jacket

5420 002

Sizes: 44 – 66
90 – 114

- Lapel/turn down collar
- Hidden snap fastener placket
- 2 chest patch pockets with integrated flap and snap fastener
- 2 inner chest pockets
- Adjustable cuffs
- Ventilation openings at chest height

W C2

420 g/m²

Material:
100% cotton



Care:



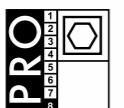


008
grey



Material:
100% cotton

Care:



Trousers

5421 002

Sizes: 44 - 66
90 - 114

- 7 belt loops
- 2 side pockets with snap fastener
- 1 internally and externally reinforced ruler pouch, divided, with flap and snap fasteners
- Button fly
- Adjustable leg hems with snap fasteners

Welder
CLASS 2

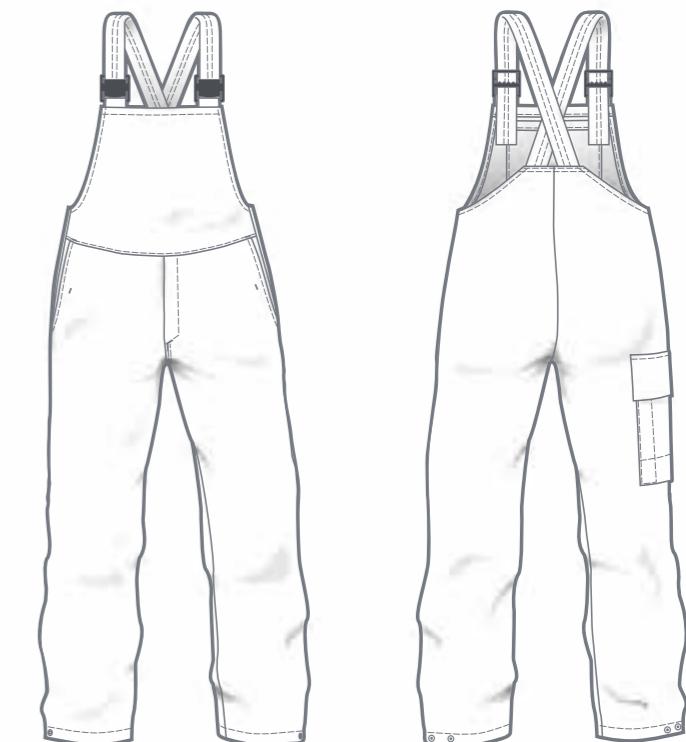
EN ISO 11611:2015
Class 2 A1+A2

EN ISO 11612:2015
A1+A2 B1 C1 E2 F1

flame retardant equipped



008
grey



Dungarees

5422 002

Sizes: 44 - 66
90 - 114

- Adjustable elastic straps
- 1 inner bib pocket with snap fastener
- Adjustable side fastener with hidden jeans button
- 2 side pockets with snap fastener
- 1 internally and externally reinforced ruler pouch, divided, with flap and snap fasteners
- Button fly
- Adjustable leg hems with snap fasteners

Multinorm

1-PLY



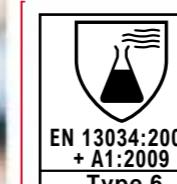
green
selection

Tencel™

- TENCEL™ Lyocell and Modal fibers are made with at least 50% less carbon emissions and water consumption*
- TENCEL™ Lyocell and Modal fibers are derived from the natural raw material wood
- TENCEL™ Lyocell and Modal fibers support a natural dry feeling through moisture control

TENCEL™ is a brand
of Lenzing AG

*Compared to generic (unbranded) lyocell and modal. Results based on LCA standards (ISO 14040/44) and available via Higg MSI (Version 3.8)



Material:
50% lyocell (TENCEL™)
30% cotton
19% polyester
1% antistatic

Care:



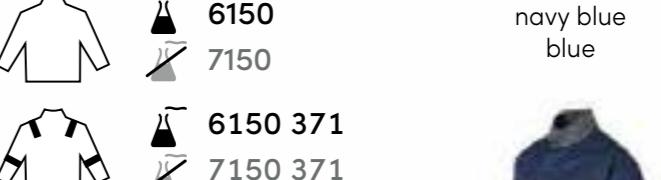
flame retardant
equipped



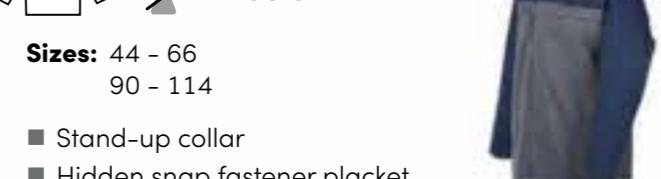
346
blue / navy blue



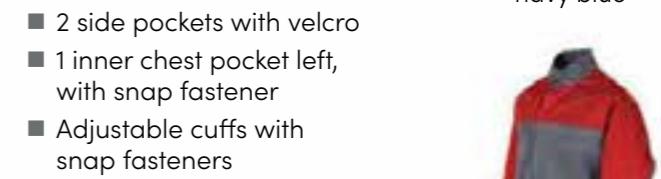
524
navy blue
blue



840
grey
navy blue



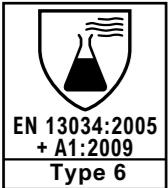
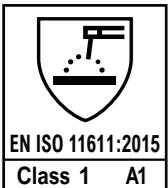
842
grey
red



MP

Logos

67



346
blue
navy blue



524
navy blue
blue



840
grey
navy blue



842
grey
red

Trousers

		6151 000
		7151 000
		6151 311
		7151 311
		6151 999
		7151 999

Sizes: 44 - 66
90 - 114
22 - 33

- 7 belt loops
- Waistband fastener with hidden jeans button
- Zip fly
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners
- 1 reinforced ruler pouch
- With flap and hidden snap fasteners

optional:

- Without EN 13034 (chemical protection)
- Knee reinforcement with opening for knee pads, with velcro
- Each leg with 1 reflective stripe



Dungarees

		6152 000
		7152 000
		6152 311
		7152 311
		6152 999
		7152 999

Sizes: 44 - 66
90 - 114
22 - 33

- Adjustable elastic straps with cam lock buckle
- High bib back
- 1 large bib pocket with flap and hidden snap fasteners + attached pocket, with 2 pen holders
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners
- 1 reinforced ruler pouch with flap and hidden snap fasteners
- Zip fly
- 2 side fasteners with jeans button, snap fastener and gusset



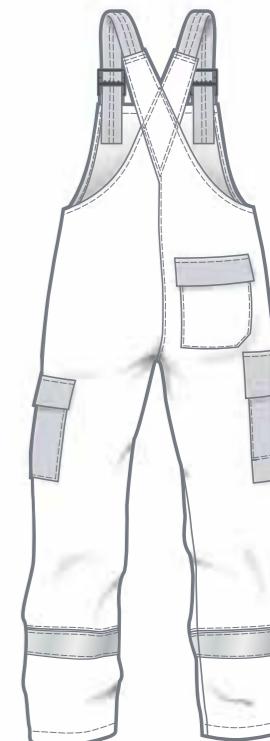
Multinorm 1-PLY



346
blue
navy blue



524
navy blue
blue



840
grey
navy blue



842
grey
red

Tencel™

300g/m²

Material:
50% lyocell (TENCEL™)
30% cotton
19% polyester
1% antistatic

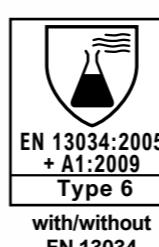
Care:



flame retardant equipped

Multinorm

Model design according to HACCP DIN 10524



without outside
pockets

without bib pocket



HACCP

Logos

Tencel™



Material:
50% lyocell (TENCEL™)
30% cotton
19% polyester
1% antistatic



EN ISO 11612:2015

A1 B1 C1 E3 F1

Jacket



6150 222
7150 222

Sizes: 44 - 66
90 - 114

- Stand-up collar
- Hidden snap fastener placket
- No outside pockets
- 1 inner chest pocket with snap fastener
- 1 inner side pocket with snap fastener
- Adjustable cuffs with snap fasteners

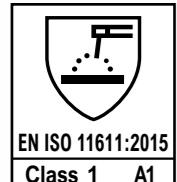
optional:

- Without EN 13034 (chemical protection)



346
blue
navy blue

842
grey
red

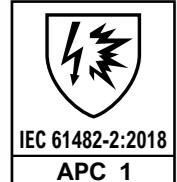


EN ISO 11611:2015

Class 1 A1

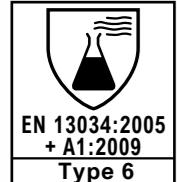


EN 1149-5:2018



IEC 61482-2:2018

APC 1



with/without EN 13034



Tencel™

Material:

50% lyocell (TENCEL™)

30% cotton

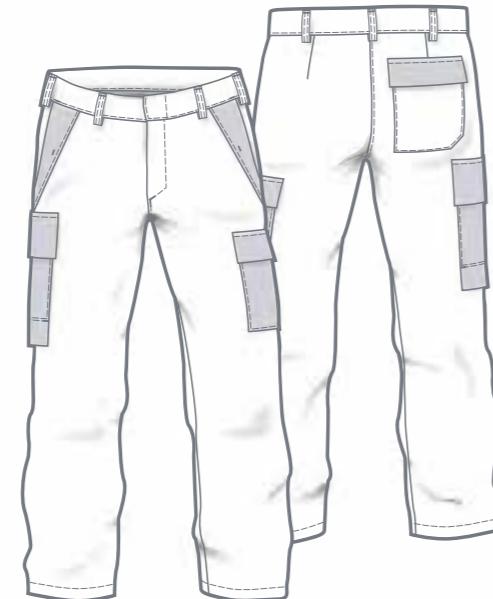
19% polyester

1% antistatic

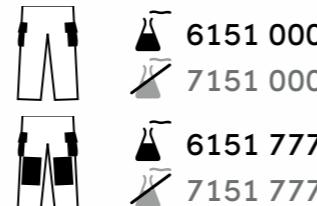
Care:



flame retardant equipped



Trousers



6151 000
7151 000
6151 777
7151 777

Sizes: 44 - 66
90 - 114
22 - 33



- 7 belt loops
- Waistband fastener with hidden jeans button
- Zip fly
- 2 side pockets with hidden snap fastener
- 1 hip pocket with flap and hidden snap fasteners
- 1 cargo pocket with flap and hidden snap fasteners
- 1 reinforced ruler pouch
- With flap and hidden snap fasteners

optional:

- Without EN 13034 (chemical protection)
- Knee reinforcement with opening for knee pads, with velcro

Dungarees



6152 222
7152 222
6152 444
7152 444

Sizes: 44 - 66
90 - 114
22 - 33

- Adjustable elastic straps with cam lock buckle
- High bib back
- No bib pocket
- 2 side fasteners
- 1 hip pocket with flap and snap fasteners
- 2 side pockets with snap fastener
- 1 left cargo pocket with flap and snap fasteners
- 1 internally and externally reinforced right ruler pouch with flap and snap fasteners
- Zip fly

optional:

- Without EN 13034 (chemical protection)
- Knee reinforcement with opening for knee pads, with velcro



346
blue
navy blue

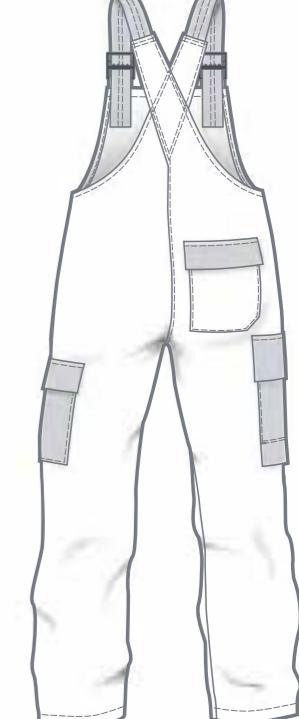
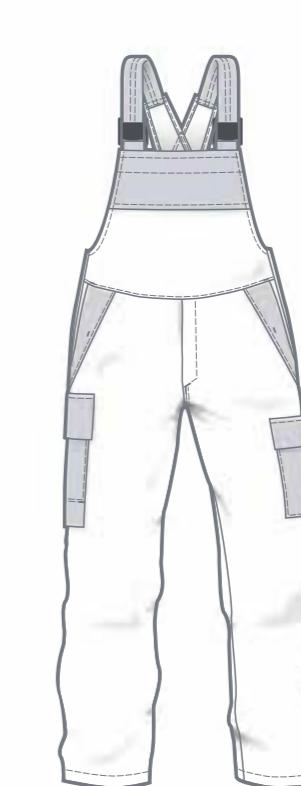


842
grey
red



346
blue
navy blue

842
grey
red



HACCP

Logos

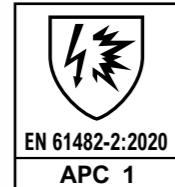
73



EN ISO 11612:2015



EN 1149-5:2018



ATPV of fabric:
5,4 cal/cm²



039
navy blue

Multinorm Polo shirt

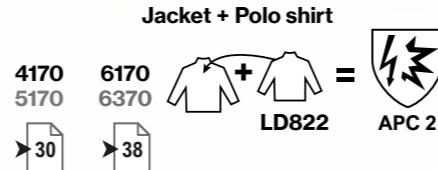
LD822

Sizes: S - 5XL

- Polo collar with 2 buttons
- Long sleeved with cuffs
- Standard logos on sleeve

**Material:**

50% cotton
39% modacrylic
10% viscose
1% antistatic

Care:

Belt Outdoor FR

HE1100

Sizes: (Length in cm)
120, 130, 140,
150, 160

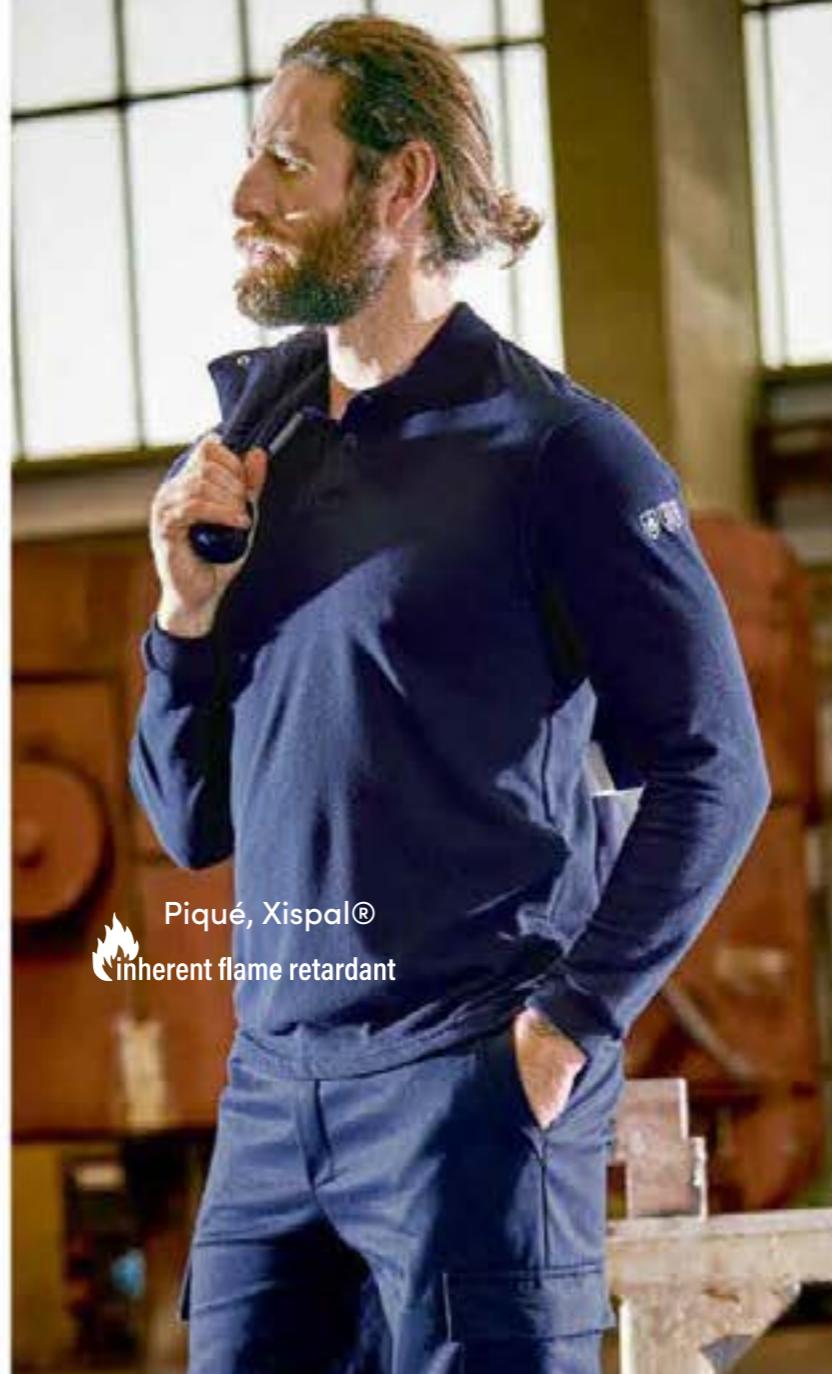
HE11538

Sizes: (Length in cm)
090, 100, 110, 120, 130, 140, 150, 160



000
black

Material:
58% polyester
23% modacrylic
19% cotton



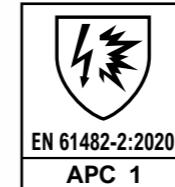
Piqué, Xispal®
inherent flame retardant



EN ISO 11612:2015



EN 1149-5:2018



EN 61482-2:2020



039
navy blue

Multinorm Sweatshirt

LD816S

Sizes: S - 4XL

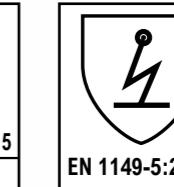
- Crew neck
- Long sleeved with cuffs
- Standard logos on sleeve

**Material:**

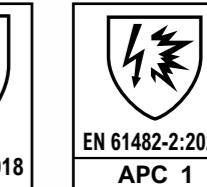
50% cotton / 39% modacrylic
10% viscose / 1% antistatic

Care:

EN ISO 11612:2015



EN 1149-5:2018



EN 61482-2:2020

ATPV of fabric:
4,1 cal/cm²



Multinorm Long johns

LD816P

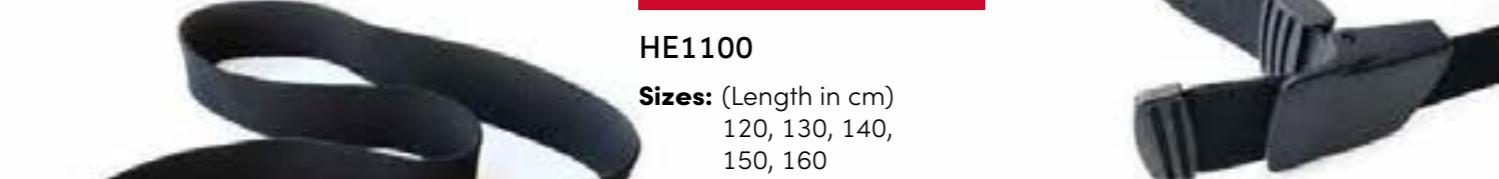
Sizes: S - 4XL

- Elasticated waistband
- Leg cuffs

039
navy blue

**Material:**

50% cotton / 39% modacrylic
10% viscose / 1% antistatic

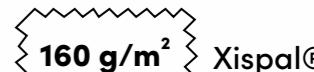
Care:

EN 1149-5:2018

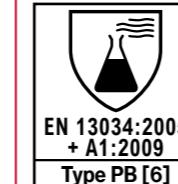
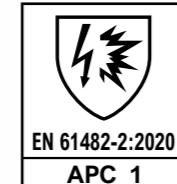


Multinorm Balaclava

LD816B - 10 pieces

Size: 0**Care:****Material:**

50% cotton
39% modacrylic
10% viscose
1% antistatic



with/without EN 13034

Material:
170 g/m²
30% modacrylic
30% viscose
20% cotton
19% polyamide
1% antistatic

Multinorm Shirt

4173R

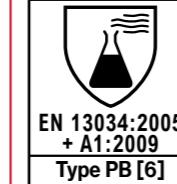
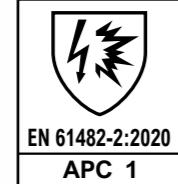
5173R

Men's
Sizes: 46 - 64

- Shirt collar
- Hidden snap fastener placket, Overlap: 5 cm
- Long sleeved
- Cuff with inside and outside hidden snap fastener + gusset
- 2 chest pockets with flap and with snap fastener hidden to the outside
- Torso and sleeves with 2 reflective stripes (5 cm / 1 inch wide)


Care:

911
high-vis yellow
navy blue

all Shirts: inherent flame retardant


Material:
170 g/m²

30% modacrylic / 30% viscose
20% cotton / 19% polyamide
1% antistatic

Multinorm Shirt


Men's
Sizes: 46 - 64

- Shirt collar
- Hidden snap fastener placket, Overlap: 5 cm
- Long sleeved
- Cuff with inside and outside hidden snap fastener + gusset
- 2 chest pockets with flap and with snap fastener hidden to the outside
- Torso and sleeves with 2 reflective stripes (5 cm / 1 inch wide)


Care:

611
navy blue

ATPV of fabric:
6 cal/cm²

Shirt

6107
Men's
Sizes: 46 - 64

- Shirt collar
- Hidden snap fastener placket
- 1 chest pocket with flap and hidden snap fastener
- Cuff with inside and outside hidden snap fastener + gusset


498
grey

Material:

30% modacrylic / 30% viscose
20% cotton / 19% polyamide
1% antistatic

170 g/m²

Care:


Shirt

4227
Collar-
Sizes: 35/36 - 55/56

- Shirt collar
- Hidden snap fastener placket
- 1 chest pocket
- Cuff with inside and outside hidden snap fastener + gusset


159
blue

SIA
Logos
L

NOMEX®

185 g/m²

Material:

98% aramide / 2% carbon fibre
Nomex® Comfort

Care:


High visibility clothing

For other standards please see page 110

DIN EN ISO 20471



This standard determines the requirements for high visibility clothing. Employees must be visible when working outside (for example in moving traffic) in all lighting conditions that may occur.

During daylight conditions this is ensured by the fluorescent background material and by the reflection of vehicle's headlights off the reflective material when it is dark.

Background material

ISO 20471 identifies three colours of background material:
Fluorescent yellow, orange-red and red

Protective classes

The clothing is divided into three different protective classes. Clothing in class 3 offers the highest level of protection.

The three classes have the following minimum areas for background material and reflective material:

Class 3	Class 2	Class 1
0,8 m ²	0,5 m ²	0,14 m ²
0,2 m ²	0,13 m ²	0,1 m ²

A certain protective class may be attained by a combination of individual pieces of clothing, provided the protective class does not require this to be met by one piece of clothing.



Example illustration

Material requirements

The requirements of the materials used regarding colour fastness to rubbing, perspiration fastness, fastness to washing, cleaning resistance and ironing fastness are also defined in the standard. All non-fluorescent materials must fulfil the colour fastness requirements:

Arrangement of reflexive stripes (examples):



Torso: 2 waist reflective stripes + 2 shoulder reflective stripes*

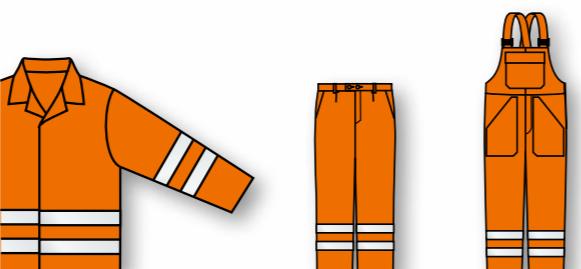
Or: 1 waist reflective stripe + 2 shoulder reflective stripes*

Or: 2 waist reflective stripes

* no gaps are permitted at the front and the back between the shoulder reflective stripes and the next waist reflective stripe

Long sleeves and trousers legs:

At least 2 horizontal reflective stripes



Reflective stripes - distances and angles

- Minimum distance between reflective stripes: 5 cm
 - Minimum distance from the hem: 5 cm
 - Maximum angle of horizontal wraparound stripes: 20°
-

Information for employees

Jackets must be done up, the reflective parts of the trousers must not be obscured by boots.

Soiling, ageing

In accordance with the Road Traffic Regulations if the warning effectiveness of the high visibility clothing is lost due to soiling, ageing or a decrease in brightness it may no longer be used. This must be checked after every wash before being used again.

High Visibility TWO-TONE



High Visibility TWO-TONE



Material:
50% polyester / 50% cotton
Trim:
65% polyester / 35% cotton
245 g/m²

Care:



Jacket

8704N



Sizes: 44/46 - 64/66
90/94 - 106/110

- Stand-up collar
- Front has zip and snap fasteners
- 2 chest pockets with flap and snap fasteners
- 2 side pockets
- 1 inner phone pocket with velcro tab
- Adjustable cuffs
- Back stretch insert to assist with freedom of movement and ventilation
- 2 reflective stripes on torso and sleeves, reflective stripe on shoulders (5 cm / 1 inch wide)
- Back waistband with tabs and snap fasteners



Trousers

8705N 777



Sizes: 42 - 66
94 - 114
23 - 32

- 6 belt loops
- Elasticated back waistband
- Waistband with jeans button
- 2 side pockets
- 2 hip pockets, right with flap and hidden snap fasteners
- 1 ruler pocket + attached pocket, divided
- 1 cargo pocket (bellow pocket) with flap and snap fasteners + phone pocket (bellow pocket) with velcro tab
- Zip fly
- Knee reinforcement made from high strength polyester with opening for knee pads, with velcro
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)



Material:
50% polyester / 50% cotton

Trim:
65% polyester / 35% cotton
245 g/m²

Care:



1

2

3

4

5

6

7

8

High Visibility

TWO-TONE

Logos



HVH

Dungarees

8706N 777



Sizes: 42 - 66
94 - 114
23 - 32

- High bib back
- Lateral stretch inserts
- Adjustable elastic straps with front release buckles
- Zip fly
- 1 bib pocket with flap and snap fasteners + attached pocket with pen holder
- 1 inner bib pocket with zip
- 2 side pockets
- 2 hip pockets, right with flap and hidden snap fasteners
- 1 ruler pocket + attached pocket
- 1 cargo pocket (bellow pocket) with flap and snap fasteners + phone pocket (bellow pocket) with velcro tab
- Knee reinforcement made from high strength polyester with opening for knee pads, with velcro
- 2 reflective stripes on legs (7 cm / 2,75 inch wide)

High Visibility



911
high-vis yellow
navy blue



929
high-vis orange
navy blue



Vest

two-tone

8780

Sizes: XS - 4XL

- Stand-up collar
- Zip
- 1 left chest pocket with flap and snap fasteners
- 1 right chest pocket (bellow pocket) with velcro tab + pen compartment
- 1 inner chest pocket with snap fastener
- 2 side pockets
- 2 reflective stripes on torso, reflective stripes on shoulders (5 cm / 2 inch wide)

240 g/m²
+
150 g/m²

Material:

70% polyester
30% cotton

Quilted Lining:
100% polyester

Care:



035
high-vis yellow



072
high-vis orange

Vest

unicoloured

8779

Sizes: XS - 4XL

- Stand-up collar
- Zip
- 1 left chest pocket with flap and snap fasteners
- 1 right chest pocket (bellow pocket) with velcro tab + pen compartment
- 1 inner chest pocket with snap fastener
- 2 side pockets
- 2 reflective stripes on torso, reflective stripes on shoulders (5 cm / 2 inch wide)



240 g/m²
+
150 g/m²

Material:

70% polyester
30% cotton

Quilted Lining:
100% polyester

Care:





911
high-vis yellow
navy blue



929
high-vis orange
navy blue



035
high-vis yellow

072
high-vis orange



Softshell Jacket

two-tone

8773

Sizes: XS - 4XL

- Stand-up collar
- Front zip
- 1 chest pocket with zip
- 2 side pockets with zip
- Elasticated back of cuffs
- 2 reflective stripes on torso and sleeves, 1 reflective stripe on shoulders



2
EN ISO 20471:2013
+ A1:2016

Softshell Jacket

unicoloured

8772

Sizes: XS - 4XL

- Stand-up collar
- Front zip
- 1 chest pocket with zip
- 2 side pockets with zip
- Elasticated back of cuffs
- 2 reflective stripes on torso and sleeves, 1 reflective stripe on shoulders

High Visibility SOFTSHELL JACKET

265 g/m²

Material:
100% polyester

Care:





High Visibility FLEECE JACKET



035
high-vis yellow



072
high-vis orange

Logos

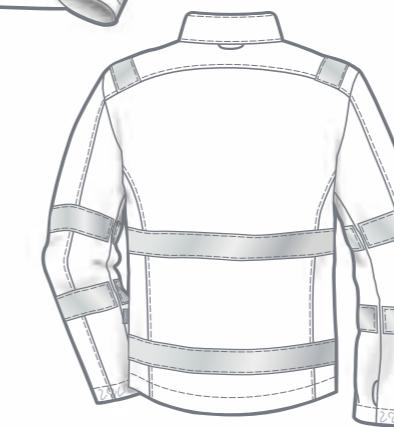
HV

Fleece Jacket

8707

Sizes: XS (40/42) - 4XL (68/70)
S-L (90/94) - XL-L (114/118)

- can be combined with weather jacket 8709 to add warmth
- Stand-up collar
- Front zip
- 2 side pockets
- 1 side inner pocket with zip
- Longer back



277 g/m²

Material:
100% polyester

Care:



High Visibility WEATHER JACKET



- Zip with zipper pull tag
- Rain gutter



- Lined
- Inner chest pocket with zip



- Possibility to add a patch
- Flap for attaching a fleece jacket as lining



Weather Jacket

8709

Sizes: XS (40/42) - 4XL (68/70)
S-L (90/94) - XL-L (114/118)

- 2 layer laminate
- Lined, can be combined with the fleece jacket to add warmth
- Stand-up collar with fold away hood, adjustable elastic cord in hood
- Front placket with zip and snap fasteners + rain gutter
- 2 chest pockets (bellow pockets) with flap and velcro
- 2 side pockets with velcro flap
- 1 inner chest pocket with zip
- Adjustable sleeve cuffs with velcro tabs
- Elasticated seam
- 2 reflective stripes on torso and sleeves, 1 reflective stripe on shoulders



O



035
high-vis yellow



072
high-vis orange

210 g/m²

Material:
100% polyester,
2 layer laminate

water column > 20.000 mm
Water vapour transmission resistance
 R_{et} 4.7 m²Pa/W

Care:



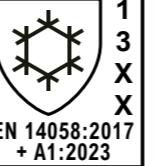
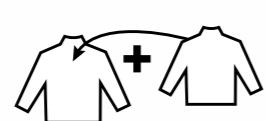
Fleece Jacket

8707

- Can be combined with weather jacket to add warmth



035
high-vis yellow 072
high-vis orange



8709 8707

=

94

Rotating Machinery Protection



Jacket

2650

Sizes: 44 - 66
90 - 114

- Hidden snap fastener placket
- 1 inner chest pocket with snap fastener
- 1 inner front pocket
- Adjustable sleeve cuffs
- Ventilation openings at chest height
- Adjustable waistband with snap fasteners
- Dungarees



Q

Latzhose

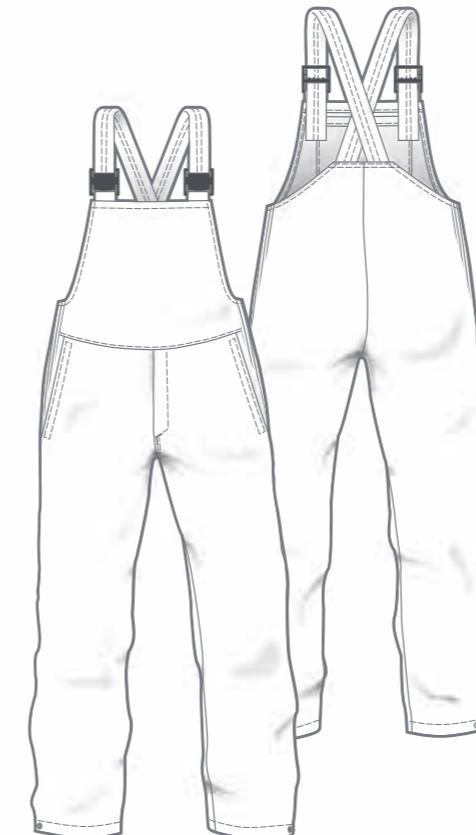
2652

Sizes: 44 - 66
90 - 114

- 1 inner bib pocket with snap fastener
- 2 side pockets with velcro
- Lateral stretch inserts
- Button fly
- Adjustable leg hems with snap fasteners



159
blue



Material:
65% polyester
35% cotton

Care:



Logos

O

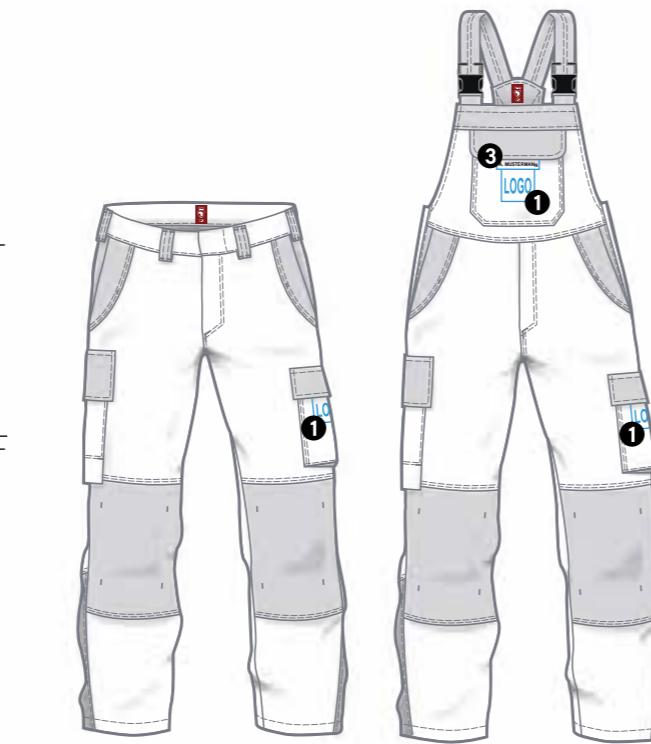
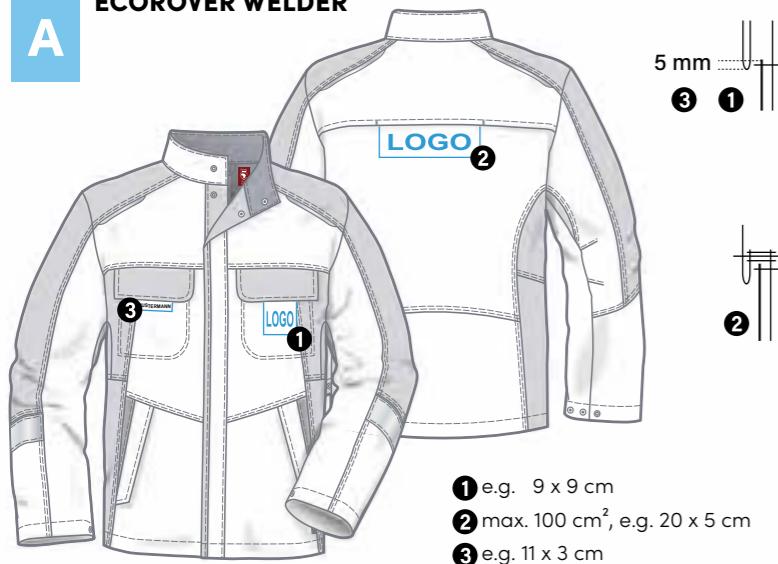
HWW

RMP

Logo-sizes + positions

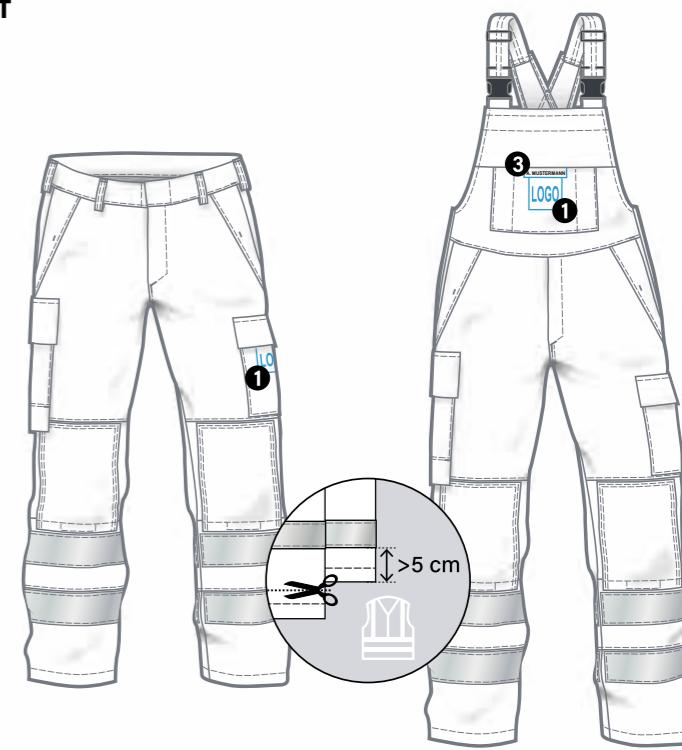
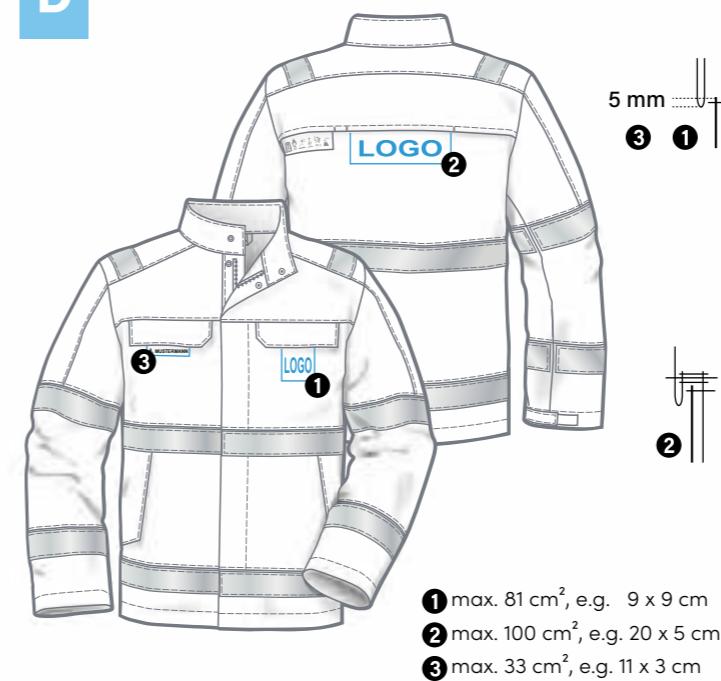
+ TROUSERS SHORTENING

ECOROVER WELDER

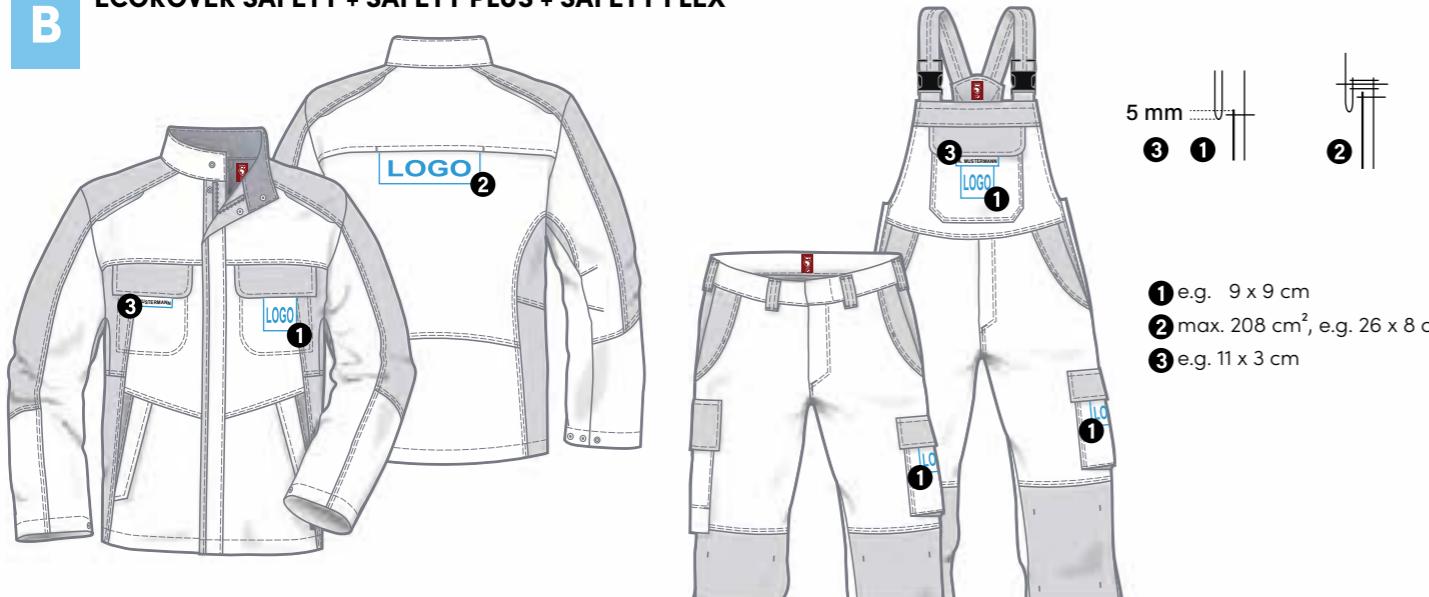


HIGH-VIS-MULTINORM + HIGH-MULTINORM - LIGHT

D

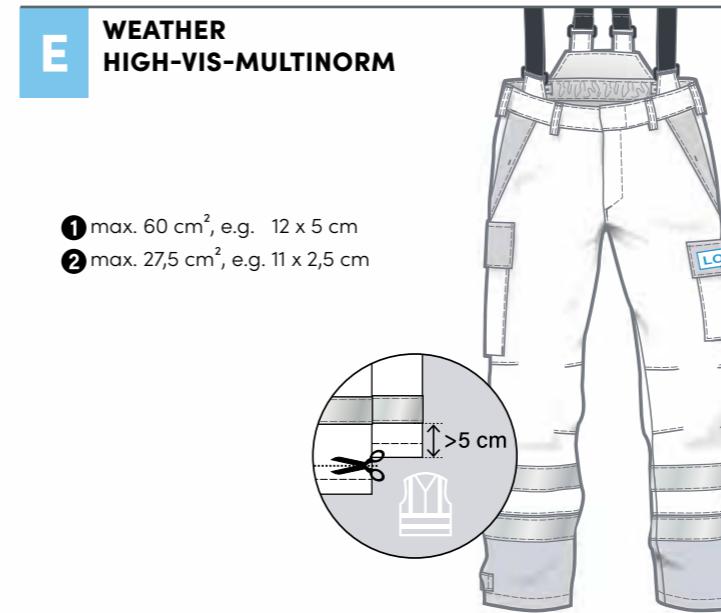


ECOROVER SAFETY + SAFETY PLUS + SAFETY FLEX

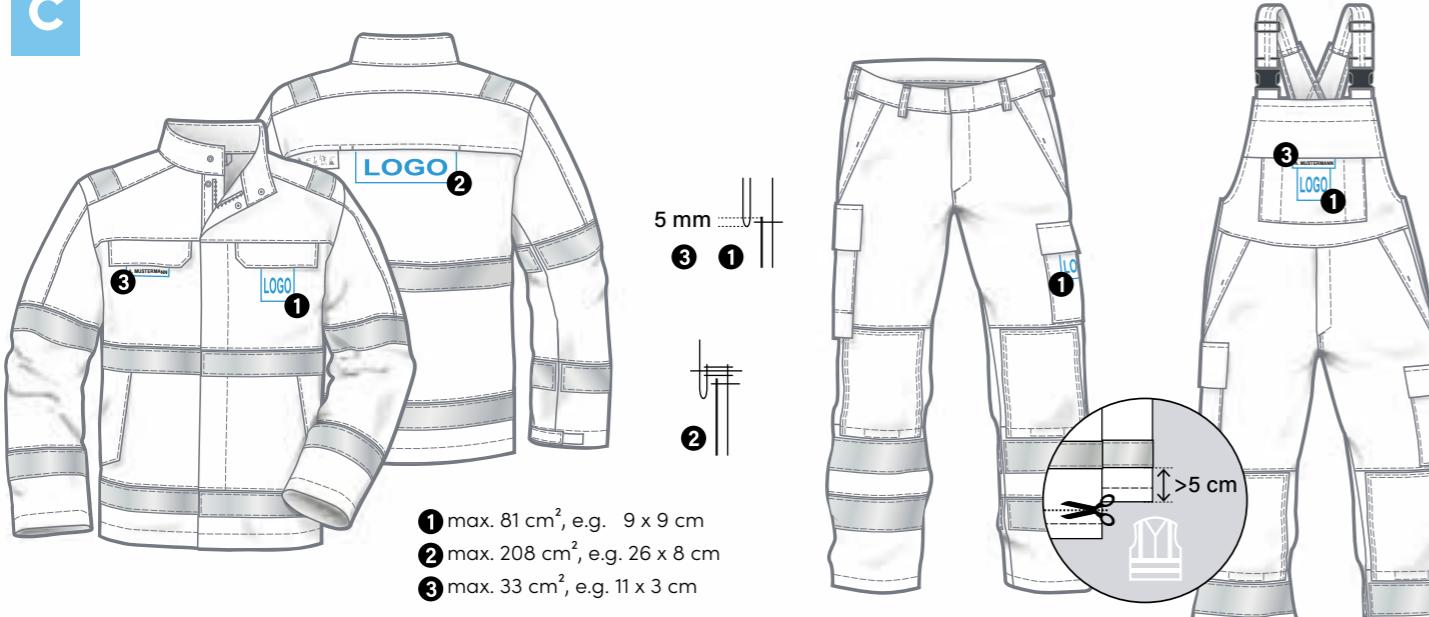


WEATHER HIGH-VIS-MULTINORM

E

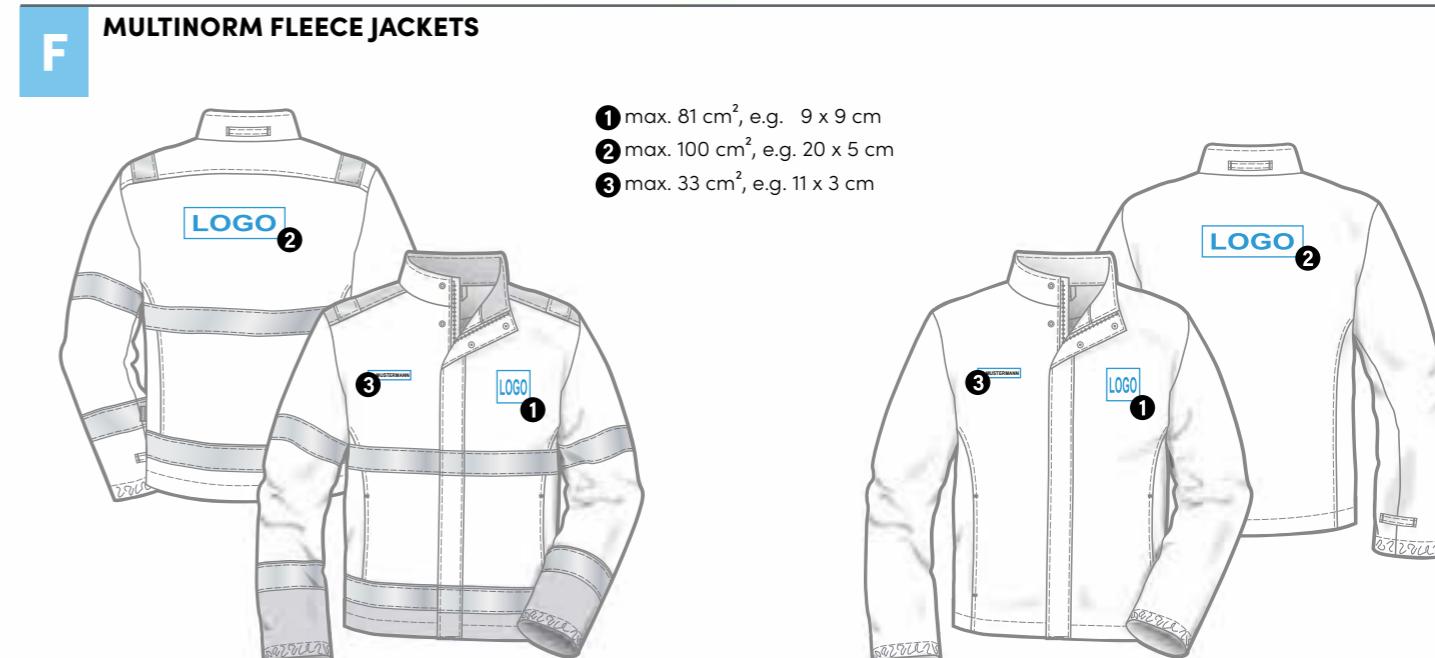


HIGH-VIS-MULTINORM + HIGH-MULTINORM - HEAVY



MULTINORM FLEECE JACKETS

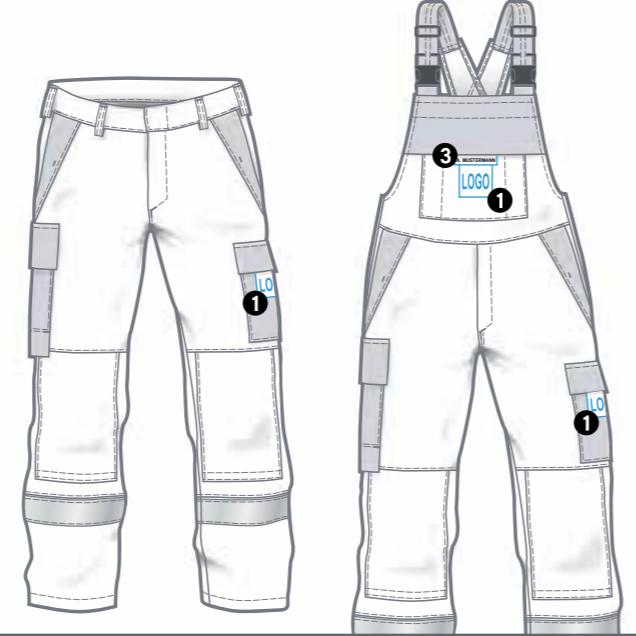
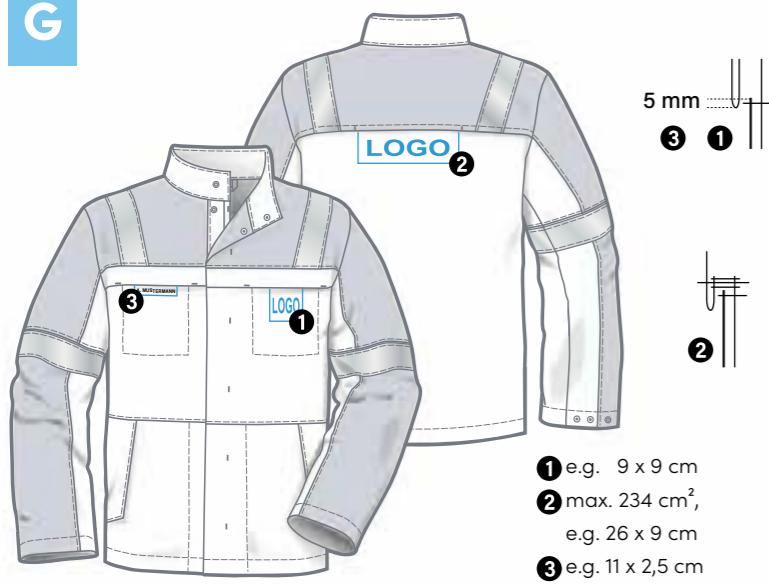
F



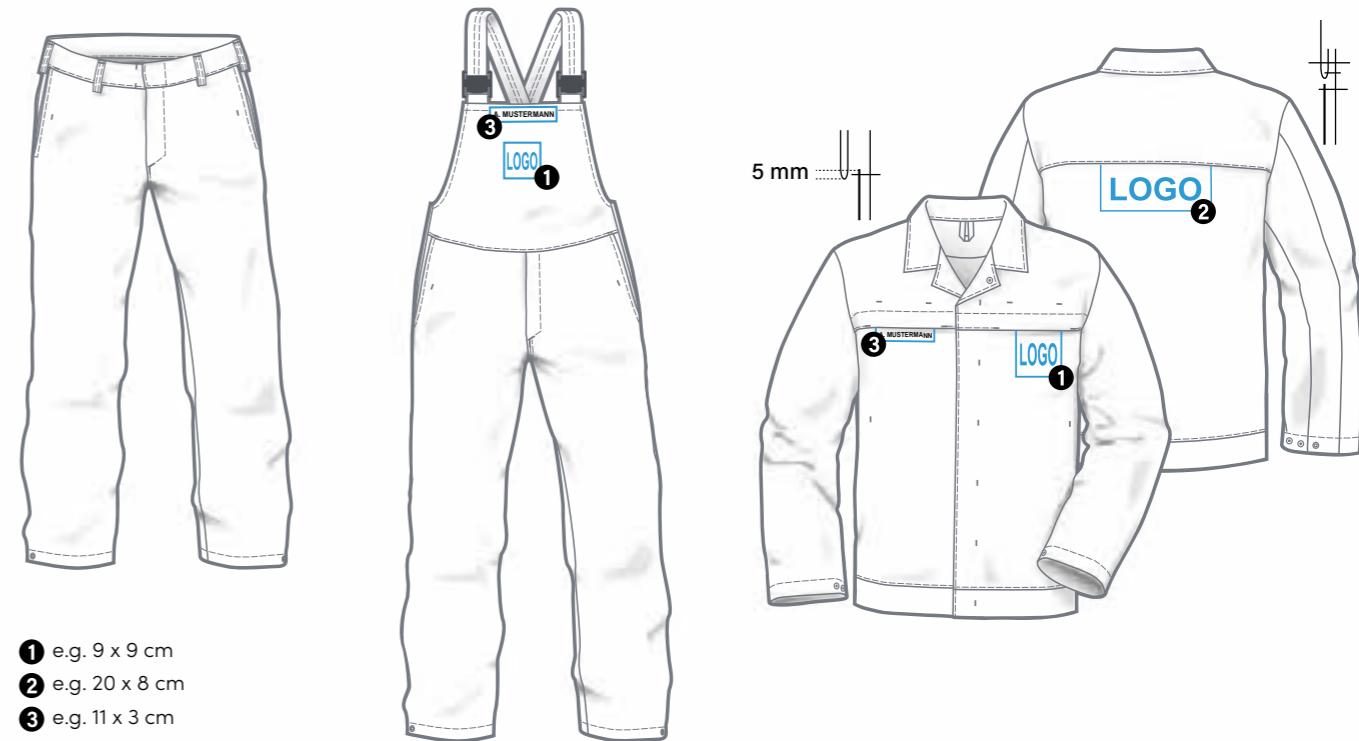
Logo-sizes + positions

+ TROUSERS SHORTENING

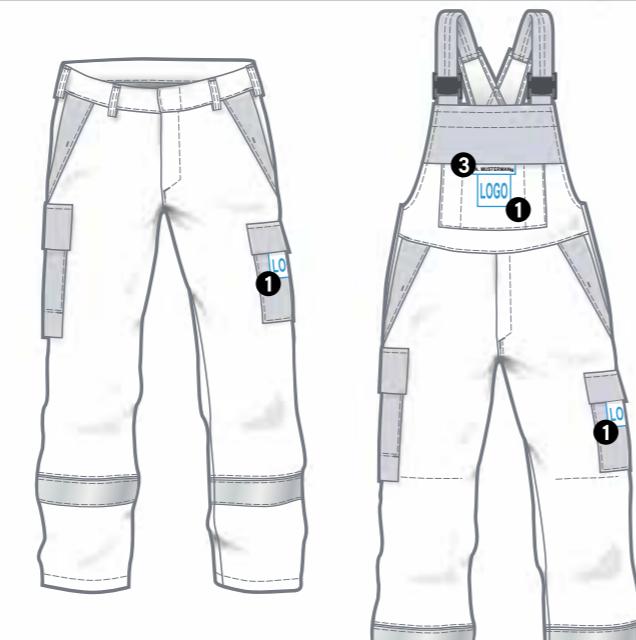
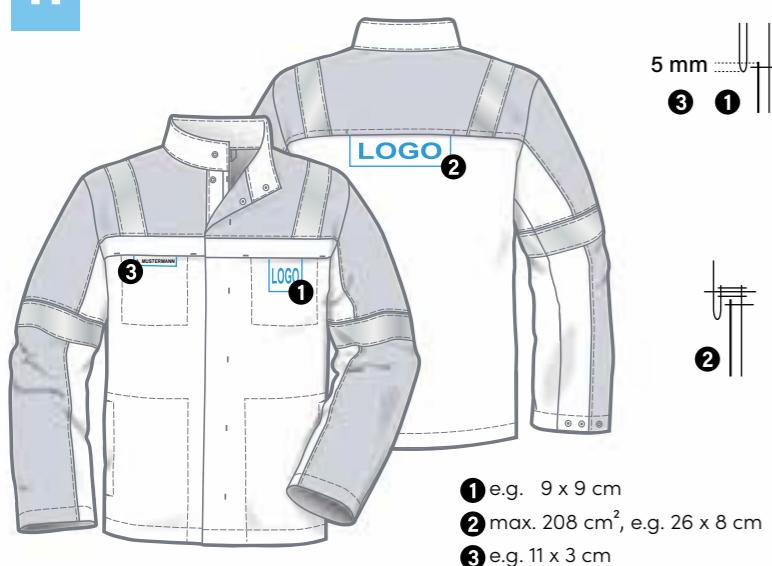
FOUNDRY + WELDER - HEAVY + LIGHT



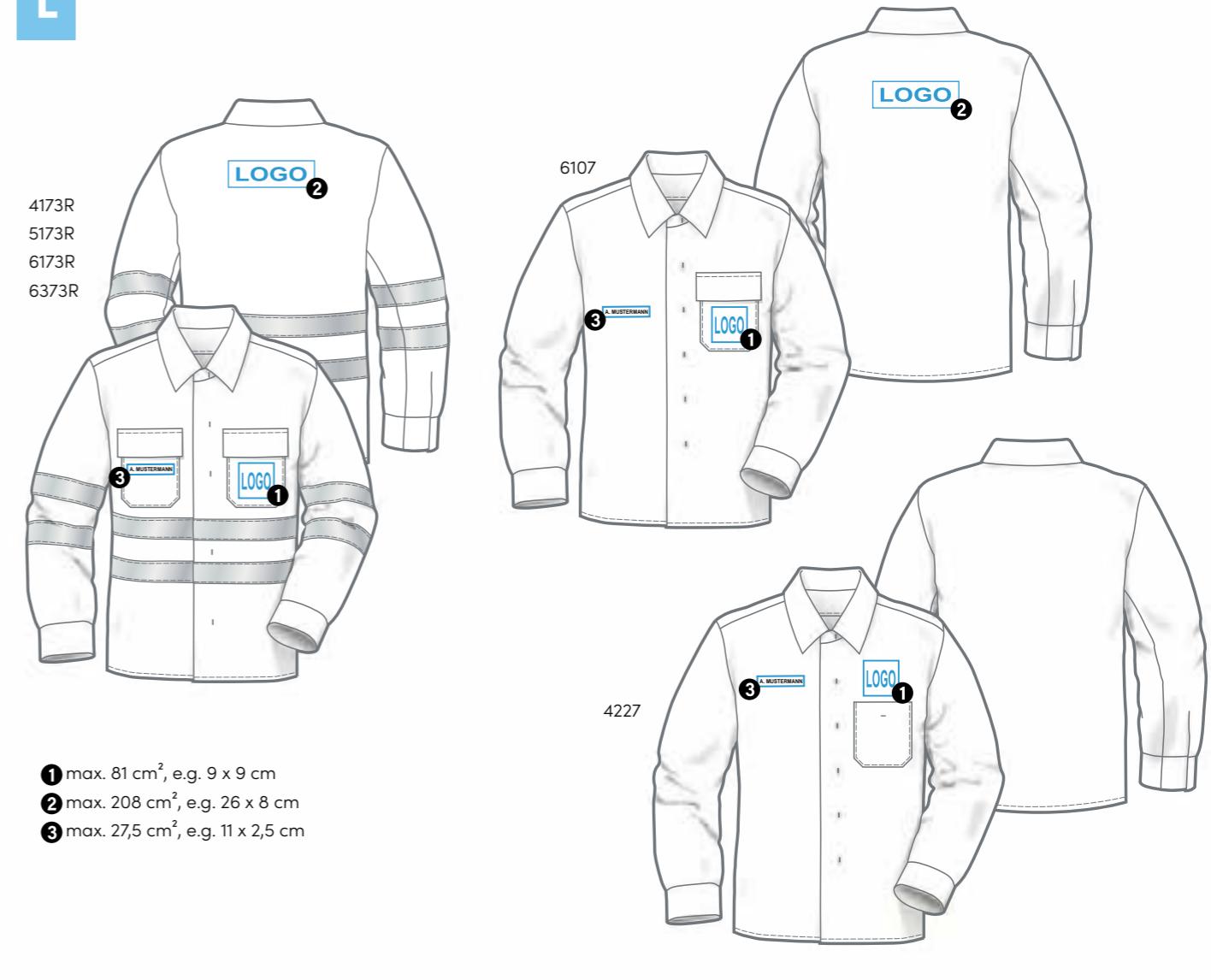
K WELDER CLASS 2



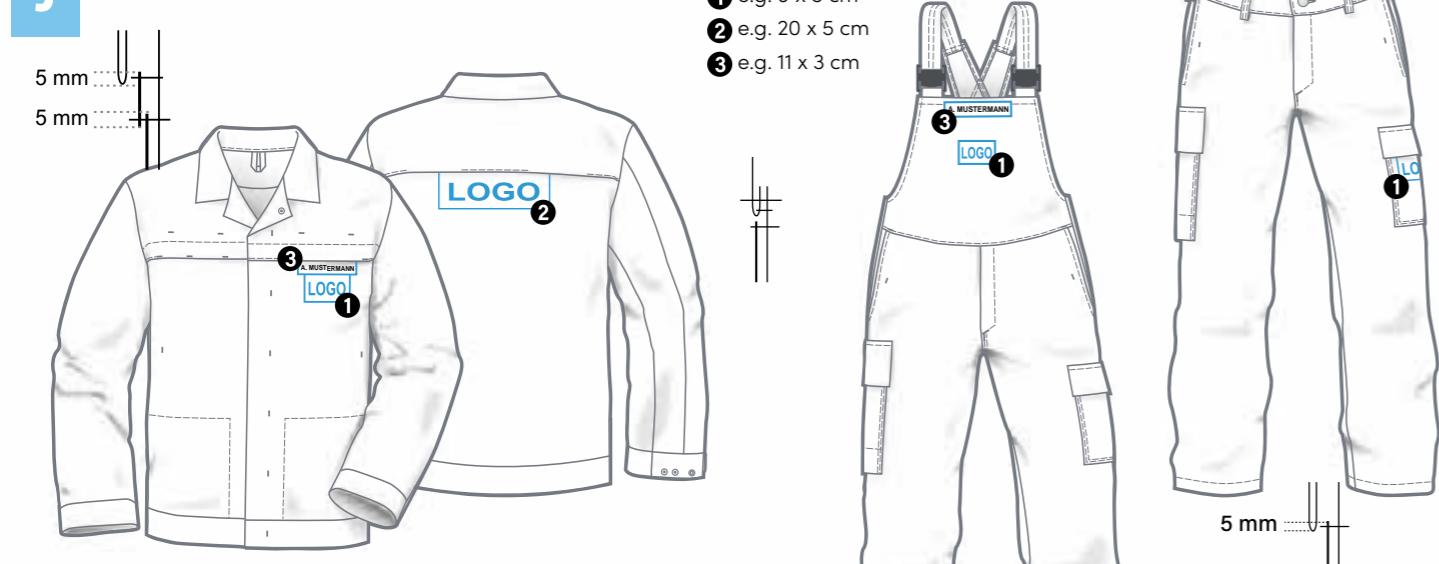
MULTINORM 1-PLY



L MULTINORM SHIRTS



J WELDER CLASS 1



Logos G H J K L

Logo-sizes + positions

+ TROUSERS SHORTENING

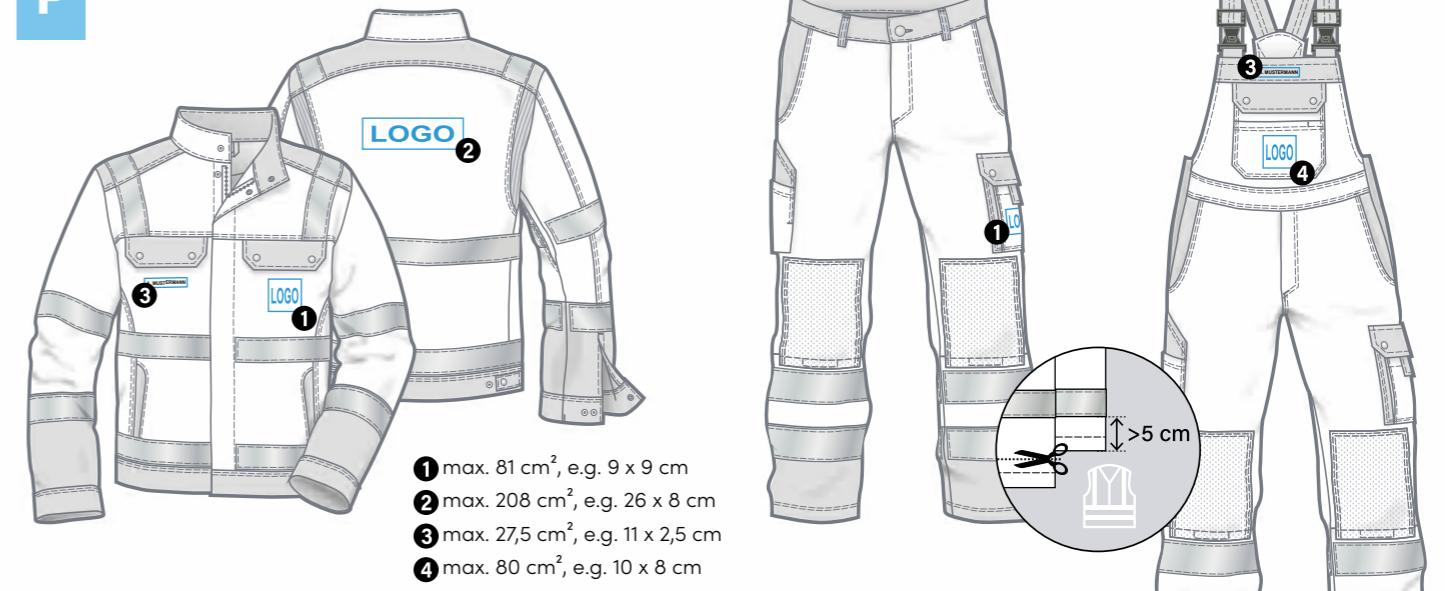
HIGH VISIBILITY VESTS

M



- ① max. 81 cm², e.g. 9 x 9 cm
- ② max. 208 cm², e.g. 26 x 8 cm
- ③ max. 27,5 cm², e.g. 11 x 2,5 cm

P HIGH VISIBILITY TWO-TONE



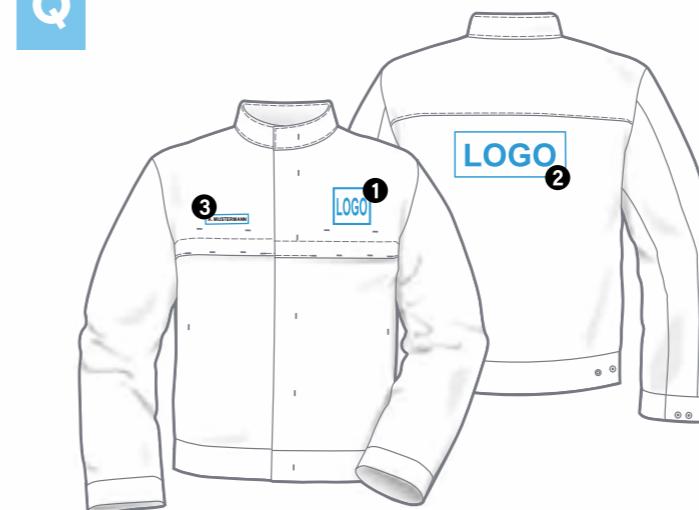
- ① max. 81 cm², e.g. 9 x 9 cm
- ② max. 208 cm², e.g. 26 x 8 cm
- ③ max. 27,5 cm², e.g. 11 x 2,5 cm
- ④ max. 80 cm², e.g. 10 x 8 cm

N SOFTSHELL JACKETS + FLEECE JACKETS

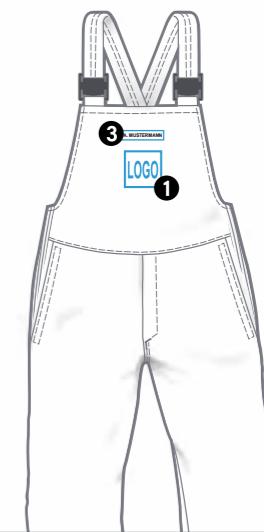


- ① max. 81 cm², e.g. 9 x 9 cm
- ② max. 208 cm², e.g. 26 x 8 cm
- ③ max. 27,5 cm², e.g. 11 x 2,5 cm

Q ROTATING MACHINERY PROTECTION



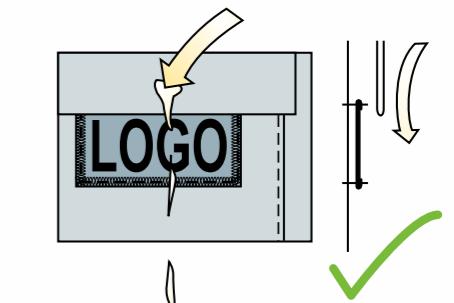
- ① e.g. 9 x 9 cm
- ② e.g. 26 x 8 cm
- ③ e.g. 11 x 2,5 cm



Molten metals and chemicals:

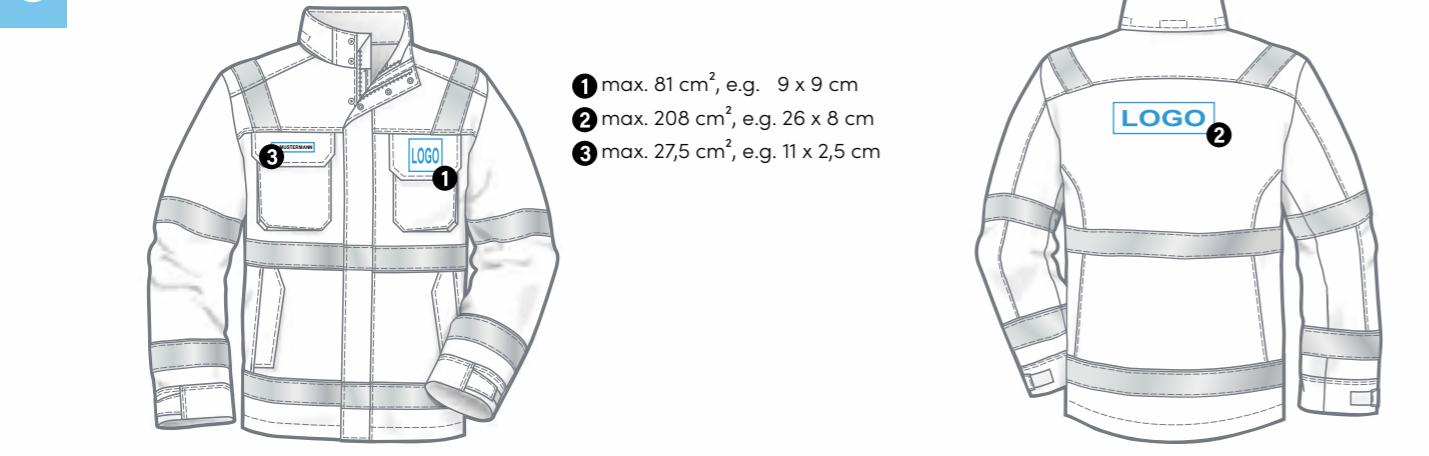


D E

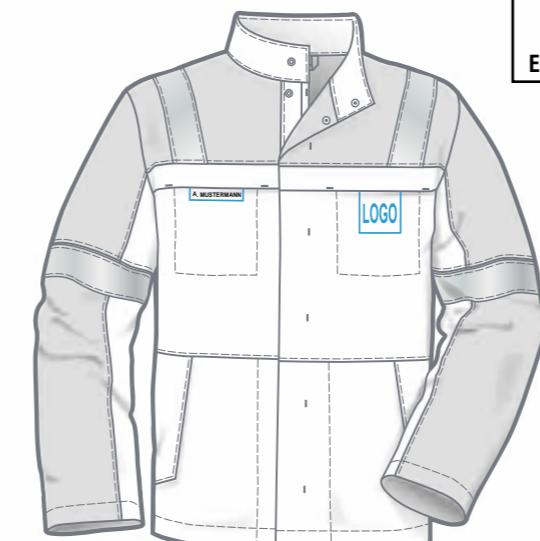


The emblem must be attached tucked under the back panel/the pocket flap.
Splashes of metal and chemicals are able to freely run off.

O HIGH VISIBILITY WEATHER JACKETS



- ① max. 81 cm², e.g. 9 x 9 cm
- ② max. 208 cm², e.g. 26 x 8 cm
- ③ max. 27,5 cm², e.g. 11 x 2,5 cm



Embroidery-threads

also suitable for



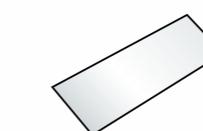
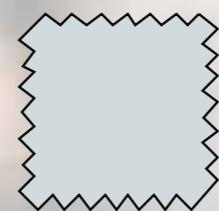
D
On request
EN ISO 11612 - D
Molten aluminium

Colours:

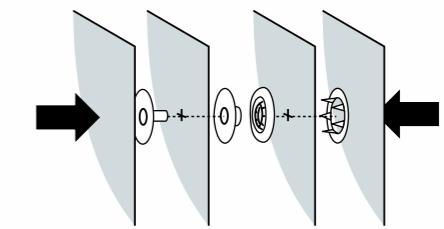
white	pale blue	light green
001	079	118
light grey	royal blue	medium green
782	159	453
medium grey	navy	green
094	039	105
grey	light blue	
298	191	
black	orange	
000	172	
yellow	red	
573	587	
light cream	bordeaux	
002	285	
light beige		
336		
khaki		
096		
brown		
473		



Repair instructions



Original fabric and materials (thread, reflective stripes etc.) must always be used for repairs.

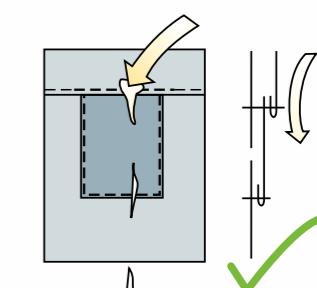


When repaired snap fasteners must be attached in the same place as the original (e.g. hidden outwards and on the inside as shown in this diagram)



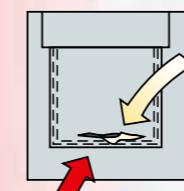
On request
EN ISO 11612 - D, E
Molten aluminium, iron

We recommend that tears and holes should not be plugged – patches must be made out of the original material and applied so that other material is overlapping

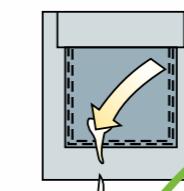


Example repairs

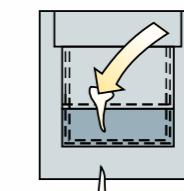
Pocket



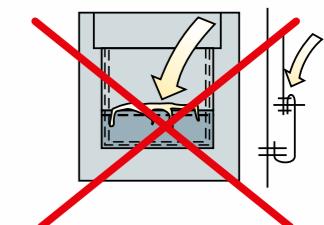
Pocket is damaged
It must be repaired



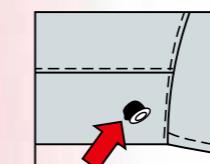
Pocket completely
resown



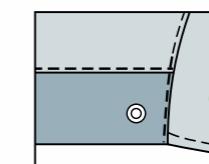
Pocket now with dividing seam, lower area new,
seam allowance must be stitched pointing upwards



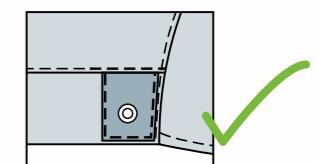
Sleeve cuffs



Snap fastener has torn out
It must be repaired

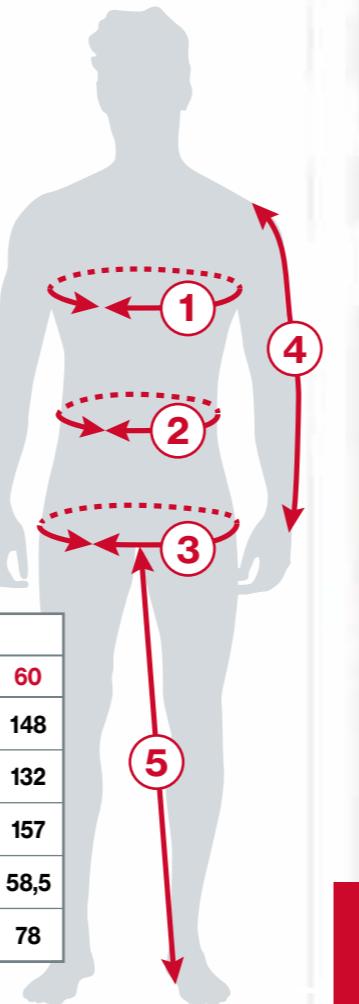


Section completely
resown



Section with trim
sown into the waist seam

Measures in cm



LADIES	Sizes														
	34	36	38	40	42	44	46	48	50	52	54	56	58	60	
1 Chest	80	84	88	92	96	100	106	112	118	124	130	136	142	148	
2 Waist	64	68	72	76	80	84	90	96	102	108	114	120	126	132	
3 Hip	89	93	97	101	105	109	115	121	127	133	139	145	151	157	
4 Sleeve length	58,5	58,5	58,5	58,5	58,5	58,5	58,5	58,5	58,5	58,5	58,5	58,5	58,5	58,5	
5 Inside leg	78	78	78	78	78	78	78	78	78	78	78	78	78	78	

MEN	Sizes																									
	XS	S	M	L	XL	2XL	3XL	4XL	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70		
1 Chest	80	84	88	92	96	100	104	108	112	116	120	124	128	132	136	140										
2 Waist	68	72	76	80	84	88	92	96	100	106	112	118	124	130	136	142										
3 Hip	88	92	96	100	104	108	112	116	120	124	128	132	136	140	144	148										
4 Sleeve length	59	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75										
5 Inside leg	72	74	76	77	78	79	80	81	82	83	84	84	84	84	84	84										
LONG SIZES	XS-L		S-L		M-L		L-L		XL-L																	
	82	86	90	94	98	102	106	110	114	118																
4 Sleeve length	63	65	66	67	68	69	70	71	72	73																
5 Inside leg	76	78	80	81	82	83	84	85	86	87																
SHORT SIZES	XS-K		S-K		M-K		L-K		XL-K		2XL-K		3XL-K													
	20	21	22	23	24	25	26	27	28	29	30	31	32	33												
4 Sleeve length	57	59	60	61	62	63	64	65	66	67	68	69	70	71												
5 Inside leg	67	69	71	72	73	74	75	76	77	78	79	79	79	79												

Size conversion table																								
MEN	XS	S	M	L	XL	2XL	3XL	4XL	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70
	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70					
LADIES	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70					

the same as normal sizes
Measurements
1 - 3



Sizes + Measures

DIN EN ISO 11611



Protective clothing for use in welding and allied processes

The protective clothing is intended to protect the wearer against spatter (small splashes of molten metal), short contact time with flame and radiant heat from an electric arc. It minimizes the possibility of electrical shock by short-term, accidental contact with live electrical conductors at voltages up to approximately 100 V d. c. in normal conditions of welding.

This standard defines two classes with performance requirements. Class 1 is the lower class and Class 2 the higher class.

• Class 1

Offers protection against less hazardous welding techniques and workplace situations with less weld spatter and lower radiant heat.

• Class 2

Offers protection against more hazardous welding techniques and workplace situations with more weld spatter and greater radiant heat.

Performance requirements - clothing

- No electrically conductive connection possible between the inside and the outside of the clothing, such as metal fastenings.

- Protective jackets must be of sufficient length to overhang the top of the trousers by at least 20 cm in every posture and with every movement of the body.

- Fastenings may not allow any folds or pockets to form where splashes of metal could collect.

- External pockets must be able to be closed with a flap which must be a minimum of 20 mm wider than the pocket opening.

- Side pockets below the waist (without flaps) may only protrude a maximum of 10° from the side seam.

- Sleeve cuff fastenings and adjustments as well as the resulting folds must only be situated on the underside of the sleeve cuff.

- Trousers may not have any external folds or turn-ups.

All materials such as seams and applications (such as emblems) must fulfil the limited flame spread requirements pursuant to ISO 15025 Procedure A or Procedure B. Further requirements are resistance to splashes of molten metal, to thermal radiation as well as UV radiation in accordance with the respective protective class.

Protection is lost if the clothing is contaminated with highly flammable substances. An increased amount of oxygen in the air reduces the protection against catching fire.

The isolating effect of the clothing against electrical current is reduced soon as it becomes affected by liquid, moisture or sweat.

Example areas of use

Machinery industry, shipyards, paper manufacturing, automotive industry, repair shops, workshops and utility companies.

DIN EN ISO 11612



Protective clothing - Clothing to protect against heat and flame

This standard specifies performance requirements for garments made from flexible materials, which are designed to protect the wearer's body from heat and/or flame. These garments have a wide range of application. The majority of hazards listed in this standard are classified into one of three performance levels depending on the type of hazard.

- Level 1 - exposure to a low risk
- Level 2 - exposure to a medium risk
- Level 3 - exposure to a high risk

Performance requirements:

The clothing must meet the requirements of limited flame spread and at least one other requirement.

Limited flame spread

(Code letter A1 and/or A2)

The material must not suffer flaming to the top or either side edge. It must not suffer hole formation or produce flaming or molten debris. The maximum afterglow and afterglow time is 2 seconds.

Convective heat

(Code letter B1 - B3)

The time it takes for the reverse side of the material to reach a temperature of 24°C is assessed (corresponding to second degree burns).

Radiant heat

(Code letter C1 - C4)

The material is subjected to a heat flux density of 20 kW/m² and the time it takes for a second degree burn is assessed.

Performance level C1: 7 - 20s to C4: > 95s

Splatters of molten aluminium

(Code letter D1 - D3)

The material is subjected to a certain amount of hot molten aluminium or iron. The underlying PVC film, which simulates skin, may not take any damage.

Contact heat (code letter F1 - F3)

The material is subjected to contact heat of at least 250 °C. At least performance level 1 must be achieved (e.g. F1: 5 - 10s).

Protective jackets must be of sufficient length to overhang the top of the trousers by at least 20 cm in every posture and with every movement of the body.

Garments that are designed to protect against the risk of exposure to molten metal splash by meeting the performance requirements designated by code letters **D** and **E** must have the following additional design features:

- Sleeves and trousers legs may not have turn-ups.
- External pockets must be able to be closed with a flap which must be a minimum of 20 mm wider than the pocket opening.
- Side pockets below the waist (without flaps) may only protrude a maximum of 10° from the side seam.
- Patch pockets must be made from materials meeting the same protection indices (A to F) and the same levels for these indices as the rest of the garment.
- Overlapping seams on the outside of the garment must be downward facing and secured in this position.
- Sleeve cuff fastenings and adjustments as well as the resulting folds must only be situated on the underside of the sleeve cuff.
- Neck/collar openings shall be provided with closures.
- Side slits must be covered.

Protective clothing must be inspected regularly for blemishes and damage as this could impair the flame retardant effect or even neutralise its effect. Damaged protective clothing must be removed.

Affixing applications (such as badges) is only possible to a limited extent. All materials, in particular thread and fasteners, must meet the requirements of the same protection indices (A to F) and the same levels for these indices as the rest of the garment. This also applies, in particular, to embroidery thread. The upper seams of the applications must be covered or be located directly underneath the overlapping seams.

Example areas of use

Ironworks and smelting works, foundries, smithies, hammer mills, die-cutting units, the pyrotechnic industry and utility companies.

Splatters of molten iron

(Code letter E1 - E3)

Depending on the respective class (e.g. D1: 100 - 200g or E1: 60 - 120g) the fabric is subjected to a certain amount of hot molten aluminium or iron. The underlying PVC film, which simulates skin, may not take any damage.

Contact heat (code letter F1 - F3)

The material is subjected to contact heat of at least 250 °C. At least performance level 1 must be achieved (e.g. F1: 5 - 10s).

Protective jackets must be of sufficient length to overhang the top of the trousers by at least 20 cm in every posture and with every movement of the body.

DIN EN 1149-T1-5



EN 1149-5

Electrostatic properties

This standard contains test methods and requirements for electrostatic conductive materials to avoid flammable discharges.

Part 1 - Surface resistivity

Test method for fabrics with metal fibres or threads. The surface resistance in Ω is determined. Minimum requirements: see part 5.

Part 2 - Vertical resistance

Test method for measurement of the electrical resistance through a material.

Part 3 - Charge decay

This test method is applicable to all materials, including fabrics, which cannot be tested after the first procedure (e.g. fabrics with carbon fibres). The half life of the charge decay t_{50} in seconds and the shielding factor S are determined ($S=1-E_r/E_{max}$; measured field strength with the sample: E_r without the fabric: E_{max}). Minimum requirements: see part 5.

Part 5 - Material performance and design requirements

- Material requirements – tested in accordance with **EN 1149-1**: The specific surface reactivity must be less than or equal to $2.5 \times 10^9 \Omega$.

- Material requirements – tested in accordance with **EN 1149-3**: $t_{50} < 4s$ or $S > 0.2$ (half life charge decay $< 4s$ and shielding factor > 0.2)

- If the material has conductive threads in a striped or grid pattern the distance between the conductive threads must not be greater than 10 mm in one direction.

Design requirements

- Electrostatic dissipative protective clothing must always cover the body, arms and legs including the clothing worn underneath it. It is important that the wearer is earthed (such as by wearing conductive shoes).

Thin, non-dissipative additional elements such as labels/emblems, reflective stripes etc. are permitted provided that they are permanently attached so that they do not become completely or partially detached from the electrostatic dissipative protective clothing.

- Conductive components (zips, buttons etc.) are permitted, provided that they are completely covered by the dissipative outer material when the protective clothing is worn.

Example areas of use

Utility companies (gas area), gasworks, pyrotechnics industry, emergency services.

EN 61482-2



EN 61482-2

Protective clothing against the thermal hazards of an electric arc

An electric arc is a luminous electrical discharge in the event of a short circuit. It usually does not last longer than one second and can give rise to temperatures over 10,000°C. In addition to convective heat and molten metal splashes, a great deal of radioactive heat is generated, which is invisible to the human eye and can result in serious second and third degree burns. The shock wave that occurs has a great deal of mechanical destructive force, which can cause walls to collapse.

Part 1 - Surface resistivity



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