



FIOH
notified by the Ministry of Social Affairs and Health
and identified under 0403 grants

EC TYPE EXAMINATION CERTIFICATE

12212LMS01rev10

for electrostatic dissipative protective clothing
against heat and flame and thermal effects of electric arc
as defined in EN 1149-5:2008, EN ISO 11612:2015,

A1+A2 B2 C2 F2,

and IEC 61482-2:2009 class 1 (4 kA)

Multi-Layer Anti-Static Protective Clothing

Coveralls 602, 604, 605, 73102

Parkas 622, 624, 684, 686

Jackets 623, 629

Bib'n braces 641, 642, 644

Red Wing Shoe Company Inc.

Minnesota, USA

These products comply with Directive 89/686/EEC,
as amended

Helsinki, 16 October 2017
Expiry date: 15 October 2022

Minna Torenius
Specialist

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Senior Specialist



1. Applicant

Red Wing Shoe Company Inc.
314 Main Street
Red Wing
55066 Minnesota
USA

2. Description and identification of the product

Type: Electrostatic dissipative protective clothing against heat and flame, and thermal effects of electric arc as defined in EN 1149-5:2008, EN ISO 11612:2015 and IEC 61482-2:2009

EN ISO 11612: Performance levels A1+A2 B2 C2 F2
IEC 61482-2: Class 1 (4 kA)

Name: Multi-Layer Anti-static Protective Clothing
Coveralls 602, 604, 605, 73102
Parkas 622, 624, 684, 686
Jackets 623, 629
Bib'n braces 641, 642, 644

Description: Garments can be made of the following alternative outer materials:

- Quality 00: Art# 4531, 93% Nomex, 5% Kevlar, 2% P140, 153 g/m² (Westex by Milliken, USA)
- Quality 01: Art# 6531, 93% Nomex, 5% Kevlar, 2% P-140, 203 g/m² (Westex by Milliken, USA)
- Quality 11: Art# VRE129 Flashguard, 54% Modacrylic, 35% CO, 10% Aramid, 1% carbon fibre, 195 g/m² (Kurabo, Japan)
- Quality 11P: Art# VRE129-P (permethrin treated) Flashguard, 54% Modacrylic, 35% CO, 10% Aramid, 1% carbon fibre, 195 g/m² (Kurabo, Japan)
- Quality 12: Art# BRE71042 Flashguard, 54% Modacrylic, 45% C, 1% carbon fibre, 295 g/m² (Kurab, Japan)
- Quality 15: Art# 502251, 98% CO, 2% Carbon, Twill, 220 g/m² (Daletec AS, Norway)
- Quality 19: Art# 502551, 98% CO, 2% Carbon, 250 g/m² (Daletec AS, Norway)
- Quality 21/Quality 11:
Art# Flashguard TM VRE130 5.8/6.5, 48% Tencel, 39% MAC, 12% para-aramid, 1% carbon, Twill, 220 g/m² (Westex by Milliken, USA) or
Art# Flashguard TM 5.8/6.5 (872251), 48% Tencel, 39% MAC, 12% para-aramid, 1% carbon, Twill, 220 g/m², with and without permethrin treatment (Daletec C/O, Sapphire Finishing Mills, Pakistan) Quality 29: Art# 642881, 74% CO, 24% PES, 2% Carbon, 290 g/m² (Daletec AS, Norway)
- Quality 08/Quality 22: Art# Flashguard TM (872951), 48% Tencel, 39% MAC, 12% para-aramid, 1% carbon, Twill, 290 g/m² (Daletec C/O, Sapphire Finishing Mills, Pakistan)
- Quality 30: Art# 603581, 99% CO, 1% Negastat, Satin, 350 g/m² (Daletec AS, Norway) or Art# 503551, 98% CO, 2% Carbon, Satin, 350 g/m² (Daletec AS, Norway).

Garments are insulated with a quilted lining and optionally with PU membrane, 90 g/m². Zippers used are YKK Polyester Coil Zippers.



Optional wadding materials:

- Meida, 100% PES, 150 g and 200 g with scrim
- 3M Thinsulate, 150 g and 200 g with scrim (3M, Minnesota, USA)

Optional inner lining materials:

- Art# 101731, 100% CO, 170 g/m² (Daletec AS, Norway)
- Art# ZAE001, 100% CO, 170 g/m² (Shenzhen Tecron Safety Co. Ltd., China)
- Art# F.R21*21*108*58*57/58", 100% CO, 205 g/m² (Xinxiang Xinxing Special Fabric Co. Ltd., China)

Cuffing material is Miraflex knitted cuffing material, PES/WO (Miraflex, UK) or Modastatic knit single jersey, 60% MAC/38% CO/2% antistatic fiber, 200 g/m². Elastic bands are supplied by Alge Elastic GmbH., Austria.

Garments can be provided with the following alternative retroreflective materials:

- Loxy art. 9801 Silver (Loxy AS, Norway)
- Loxy art. 9808 Trim yellow/silver/yellow (Loxy AS, Norway)
- 3M Scotchlite 9687 Trim yellow/silver/yellow (3M, Minnesota, USA).

Representative in Europe: Red Wing Shoe BV, Van Diemenstraat 272, NL-1013 CR Amsterdam, the Netherlands

Pictures of the standard patterns and specific styles are shown in Appendix 2. The style number comprises of 5 digits including the pattern number followed by the quality number.

3. Adequacy and validity of the technical documentation

The documentation supplied by the applicant is listed in Appendix 1. The technical documentation is considered adequate and valid. Materials of the products have been tested in accordance with harmonized European standards EN 1149-5:2008, EN ISO 11612:2015 and IEC 61482-1-2:2007 by accredited testing laboratories. The models of the products supplied by the applicant conform to the technical documentation.

4. Compliance with basic health and safety requirements

The products and the technical documentation relating to them comply with the relevant basic health and safety requirements stated in Directive 89/686/EEC Annex II as amended, last amended by 96/58/EC.

Note: Any modification in design, materials, or in the technical documentation, carried out on these type examined products must be brought to the attention of FIOH.

Appendix 1. Technical documentation

Appendix 2. Pictures of the different standard patterns and specific styles

End of EC type examination certificate 12212LMS01rev10.



**Technical documentation regarding EC type examination certificate
12212LMS01rev10**

Product name: Multi-Layer Anti-Static Protective Clothing
Applicant: Red Wing Shoe Company Inc., 314 Main Street, Red Wing, 55066 Minnesota, USA

| <i>Item of technical documentation</i> | <i>Document identification</i> | <i>Assessment</i> |
|---|---|--|
| 1. Application for the EC type examination | 2012-02-12 2013-07-16 (Pattern 629) 2014-07-08 (Qualities 16, 21, 22, Style 76654) 2014-10-07 (Quality 29) 2015-07-24 (Quality 19) 2015-12-21 (Quality 11P) 2016-05-05 2016-10-12 2017-07-12 (ZAE001) Update request, 2017-08-18 2017-10-09 (Quality 08/22) | |
| 2. Product drawing, construction, and material list | Garment specifications | Products are identified and described, materials are specified |
| 3. Compliance with Directive 89/686/EEC relevant basic requirements | The compliance assessment is based on reports mentioned below items 3.1-3.38 | |
| 3.1 FIOH assessment of relevant Directive basic requirements | 2017-10-16 | The applied harmonised standards EN ISO 13688:2013, EN 1149-5:2008 and EN ISO 11612:2015 support the relevant requirements |
| 3.2 FIOH test report | No. 28530T01, 2008-12-298 No. 10724T01rev1, 2011-06-30 No. 163633T01rev1, 2011-06-30 Quality 00, Art# 4531 Quality 01, Art# 6531 | Materials meets the requirements of EN ISO 11612:2015, A1+A2 B1 C1 |
| 3.3 Aitex test report | No. 2011EP0258, 2011-05-31 Quality 00, Art# 4531 No. 2011EP0269, 2011-05-20 Quality 01, Art# 6531 | Materials meet the requirements of IEC 61482-2:2009 class 1 (4 kA) |
| 3.4 FIOH test report | No. 28530T01, 2008-12-298 Quality 00, Art# 4531) Quality 01, Art# 6531 | Materials meet the requirements of EN 1149-5:2008) |
| 3.5 FIOH test report | No. 163633T01rev1, 2011-06-30 Assemblies of Quality 00, Art# 4531 and Quality 01, Art# 6531, with PU membrane, wadding G200 and inner lining 170 g/m ² | Material assemblies meet the requirements of EN ISO 11612:2015, A1+A2 B2 C2 F3 |
| 3.6 FIOH test report | No. 10507T01rev1, 2011-02-16 No. 163632T01, 2011-04-29 Quality 11, Art# Flashguard | Material meets the requirements of EN ISO 11612:2015, A1+A2 B1 C1, and of EN 1149-5:2008 |
| 3.7 FIOH test report | No. 241737T01, 2014-01-03 Quality 11P, Art# VRE129-P Flashguard (permethrin treated) | Material meets the requirements of EN ISO 11612:2015 for limited flame spread A1, and EN 1149-5:2008 |
| 3.8 FIOH test report | No. 27383T01, 2007-09-18 No. 27383T04, 2008-02-07 No. 10723T01, 2011-02-04 No. 163632T02rev, 2011-12-23 No. 163632T01, 2011-04-29 Quality 12, Art# Flashguard, BRE71042 | Material meets the requirements of EN ISO 11612:2015, A1+A2 B1 C1 F1, and EN 1149-5:2008 |



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| 3.9 Aitex test report | No. 2011EP0266, 2011-05-20 Quality 11, Art# Flashguard No. 2011EP0267, 2011-05-20 Quality 12, Art# Flashguard | Materials meet the requirements of IEC 61482-2:2009 class 1 (4 kA) |
| 3.10 FIOH test report | No. 163632T01, 2011-04-29 Assemblies of Quality 11, Art# VRE129 and Quality 12, Art# BRE71042, with PU membrane, waddings G200 and G150 and inner lining 170 g/m ² | Material assemblies meet the requirements of EN ISO 11612:2015, A1+A2 B2 C2, with lining G200 F3, with lining G150 F2 |
| 3.11 West Yorkshire Materials Testing Service test report | No. 63452 (Amended), 2014-02-03 No. 63452-01, 2014-03-13 No. 63452, 2014-03-24 Quality 15, Art# 502251/53 | Material meets the requirements of EN ISO 11612:2015, A1 A2 B1 C1, EN 1149-5:2008 and IEC 61482- 2:2009 class 1 (4 kA) |
| 3.12 West Yorkshire Materials Testing Service test report | No. 65500, 2014-07-09 No. 64876-1, 2014-07-09 No. 66726-02, 2014-10-24 No. 69476, 2015-03-25 Quality 19, Art# 502551/53 | Material meets the requirements of EN ISO 11612:2015, A1 B1 C1, EN 1149-5:2008 and IEC 61482-2:2009 class 1 (4 kA) |
| 3.13 FIOH test report | No. 256457T01, 2014-08-22 Quality 21/11, Art#Flashguard TM VRE130 5.8/6.5 | Material meets the requirements of EN ISO 11612:2015, A1 A2 B1 C1, EN 1149-5:2008 and IEC 61482- 2:2009 class 1 (4 kA) |
| 3.14 West Yorkshire Materials Testing Service test report | No. 76393 (Amended) & 76394 (Amended), 2016-09-08 No. 76393 (Amended) & 76394-03 (Amended), 2016-09-08 No. 76393-04, 2016-07-26 Quality 21/11, Art# 87225/53/68, Red Wing Flashguard TM | Material meets the requirements of EN ISO 11612:2015, A1 A2 B1 C1, EN 1149-5:2008 and IEC 61482-2:2009 class 1 (4 kA) |
| 3.15 West Yorkshire Materials Testing Service test report | No. 84188_03, 2017-06-27 No. 90109 (Amended), 2017-10-15 Quality 8/22, Art# 872951 Red Wing Flashguard 8.5 oz TM | Material meets the requirements of EN ISO 11612:2015, A1 A2 B1 C1 E1 and EN 1149-5:2008 |
| 3.16 Kinetrics test report | No. K-352002-1709B04 R00, 2017-09-28 Quality 8/22, Art# 872951 Red Wing Flashguard 8.5 oz TM | Material meets the requirements of IEC 61482-2:2009 class 1 (4 kA) |
| 3.17 West Yorkshire Materials test report | No. 57165, 2013-03-19 No. 57165-02, 2013-04-15 Quality 29, Art# 642881 | Materials meet the requirements of EN ISO 11612:2015, A1 B1 C1 and EN 1149-5:2008 |
| 3.18 FIOH test report | No. 364104T01, 2017-10-02 Quality 29, Art# 642881 | Material meets the requirements of EN ISO 11612:2015 for limited flame spread A2 |
| 3.19 STFI test report | Certificate of Test No. Z 4071/09- 5166/09, 2009-03-27 Quality 29, Art# 642881 | Materials meet the requirements of IEC 61482-2:2009 class 1 (4 kA) |
| 3.20 STFI test report | Z 4156/09-5280/09, 2009-06-24 Quality 30, Art# 603581 | Material meets the requirements of EN ISO 11612:2015, A1 B1 C1 F1, and requirements of IEC 61482- 2:2009 class 1 (4 kA) |
| 3.21 FIOH test report | No. 163631T01rev1, 2011-06-30 Quality 30, Art# 603581 | Material meets the requirements of EN ISO 11612:2015 for limited flame spread A2 |
| 3.22 West Yorkshire Materials Testing Service test report | No. 56633, 2013-03-01 No. 60220, 2013-05-03 No. 63454, 2014-02-12 No. 56633-04, 2013-04-17 Quality 30, Art# 503551 | Material meets the requirements of EN ISO 11612:2015, A1 A2 B1 C1 E1 F1, EN 1149-5:2008 and IEC 61482-2:2009 class 1 (4 kA) |





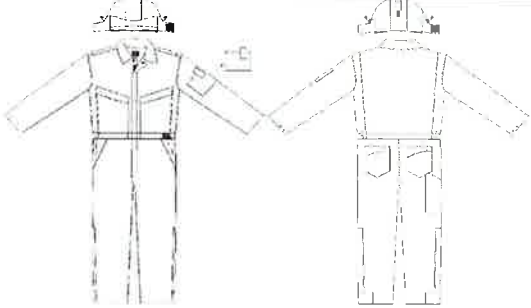
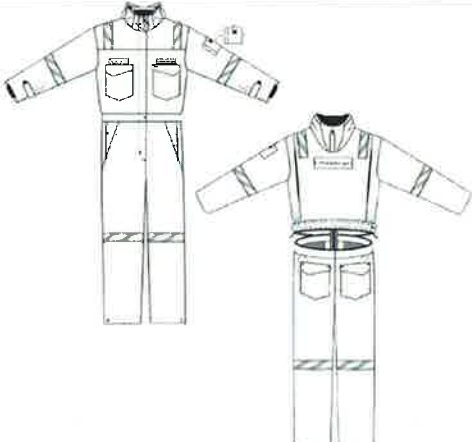
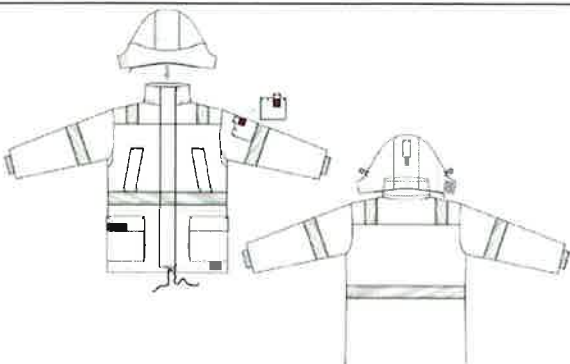
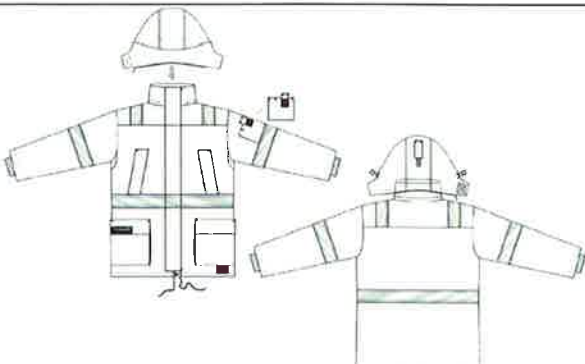
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| 3.23 FIOH test report | No. 163631T01rev1, 2011-06-30 Assembly of Quality 30, Art# 603581, with wadding G150 and inner lining 170 g/m ² | Material assembly meets the requirements of EN ISO 11612:2015, A1+A2 B2 C2 F2 |
| 3.24 West Yorkshire Materials Testing Service test report | No. 36291, 2008-08-22 Art# 101731 | Inner lining material meets the requirement of EN ISO 14116:2015, limited flame spread index 3 |
| 3.25 Intertek test report | No. GZHT01797896, 2017-07-12 No. GZHT01786926, 2017-06-28 100% cotton, Plain weave woven fabric, 170 g/m ² , Art# ZAE001 | Inner lining material meets the requirement of EN ISO 14116:2015, limited flame spread index 3 |
| 3.26 SGS test report | No. QD1104529-1/TX, 2011-04-19 Woven 100% cotton F.R21*21*108*58*57"/58" | Inner lining material meets the requirement of EN ISO 14116:2015 for limited flame spread index 3 |
| 3.27 Aitex test report | No. 2011EP0535, 2011-06-22 Coverall 604 in quality 30 | Garment meets the requirements of IEC 61482-2:2009 class 1 (4 kA). Result can be applied to the garments with the same type of quality and accessories |
| 3.28 FIOH test report | No. 176124T01, 2011-09-27 FR Antistatic Modacrylic Cotton Knit | Ventilation opening material meets the requirements of EN ISO 11612:2015, A1 B1 C1, and EN 1149-5:2008 |
| 3.29 Intertek test report | No. 397264/07, 2007-04-16 Miraflex black knitted cuffing fabric | Material meets the requirements of EN ISO 14116:2015 for limited flame spread index 3 (without pretreatment) |
| 3.30 ÖTI test report | No. 65519, 2011-03-21 Elastic tapes | Elastic tapes meet the requirements of EN ISO 11612:2015 for limited flame spread and heat resistance 260°C |
| 3.31 FIOH test certificate | No. 325539T01rev1, 2016-11-11 LOXY 9801 | Retroreflective material meets the requirements of EN ISO 20471:2013, EN ISO 11612:2015 for limited flame spread and heat resistance and EN 1149-5:2008 |
| 3.32 Satra test report | Ref: SPC0218279/1338/4, 2013-09-30 Loxy 9808 Trim | Retroreflective material meets the requirements of EN ISO 20471:2013 EN ISO 14116:2015 index 3, and EN ISO 11612:2015 for heat resistance |
| 3.33 FIOH test report | No. 300432T01, 2015-03-17 3M Scotchlite 9687 Fire Coat Trim Fluorescent yellow-silver-fluorescent yellow | Retroreflective material meets the requirements of EN ISO 20471:2013 and EN ISO 11612:2015 for limited flame spread A1 and heat resistance |
| 3.34 FIOH test report | No. 163633T01rev1, 2011-06-30 Seam, chain stitch with overlocking and two stitchings | Seam meets the requirements of EN ISO 11612:2015 for limited flame spread A1 A2, and seam strength |
| 3.35 FIOH test report | No. 362772T01, 2017-09-04 YKK Polyester Coil Zipper on fabrics Q11 & 21 and Q15 | Zipper meets the requirements of EN ISO 11612:2015 for limited flame spread A1 and heat resistance |
| 3.36 STFI test report | No. 2015 1373.4, 2015-08-03 Plastic snap button type DPV 300/15 | Plastic snap buttons meet the requirements of EN ISO 11612:2015 for heat resistance and limited flame spread A1 |
| 3.37 Draft information sheet | User information | Document meets the requirements of the Directive, EN ISO 13688:2013, EN 1149-5:2008, EN ISO 11612:2015 and IEC 61482- 2:2009 |



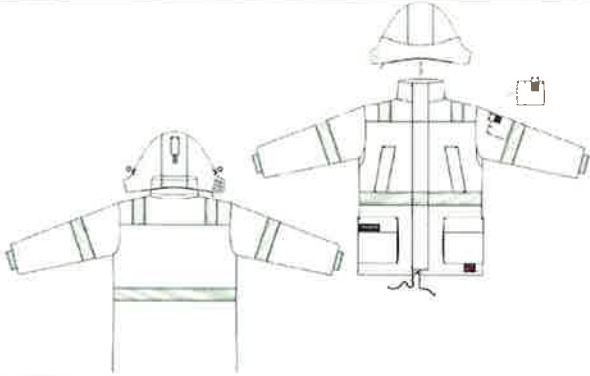
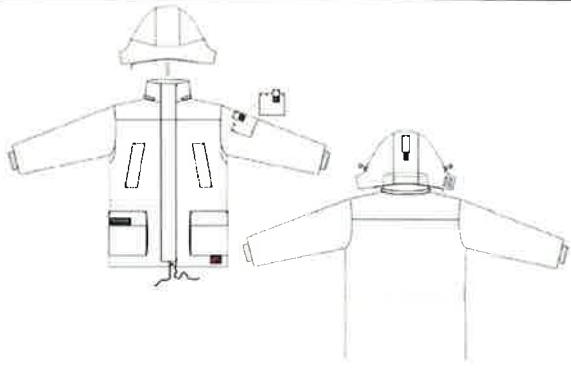

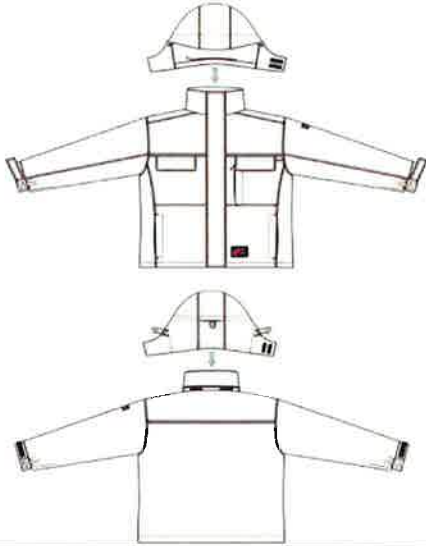
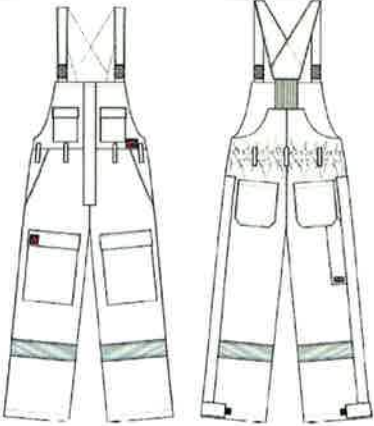
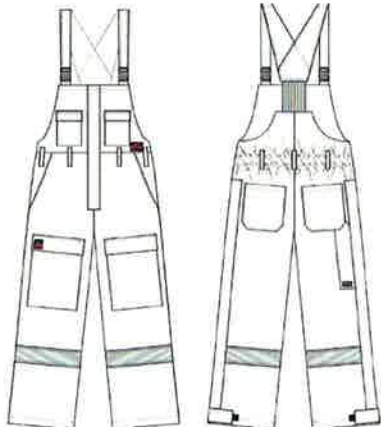
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| 3.38 Product markings | Drafts of markings in the garment specifications | Markings meet the requirements of EN ISO 13688:2013, EN 1149-5:2008, EN ISO 11612:2015 and IEC 61482-2:2009 |
| 4. Description of the production quality system and related product control and test facilities | ISO 9001:2008 Certificate No. 43276, 2012-05-21 | Agreement with FIOH on the EC quality control system for the final product (PPE category III product) |



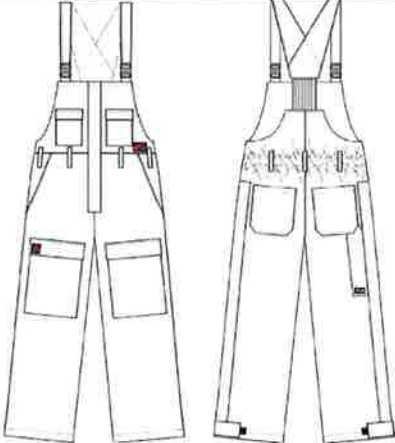
Pictures of the different basic styles

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|---|--|
| Style RW 602 FR Lined Coverall | Style RW 604 FR Lined Coverall |
|  |  |
| Style RW 605 FR Lined Coverall | Style RW 73102 Women's FR Lined Coverall |
|  |  |
| Style RW 622 FR Parka | Style RW 624 FR Parka |
|  |  |



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|---|--|
| Style RW 684 FR Parka | Style RW 686 FR Parka |
|  |  |
| Style RW 623 FR Jacket | Style RW 629 FR Jacket |
|  |  |
| Style RW 641 FR Winter Bib'n Brace | Style RW 642 FR Winter Bib'n Brace |
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|---|--|
| Style RW 644 FR Winter Bib'n Brace | |
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