



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

# EC TYPE EXAMINATION CERTIFICATE

12213RDS01rev10

for protective clothing against heat and flame  
and thermal effects of electric arc  
as defined in EN ISO 11612:2015,  
A1+A2 B2 C2 F2,  
and IEC 61482-2:2009 class 1 (4 kA)

**Multi-Layer Non-Anti-Static Protective Clothing**  
**Coveralls 602, 604, 605**  
**Parkas 622, 624, 684, 686**  
**Jacket 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: Protective clothing against heat and flame, and thermal effects of electric arc as defined in 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 Non-Anti-Static Protective Clothing  
Coveralls 602, 604, 605  
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 20: Art# 802536, 100% CO, Twill, 250 g/m<sup>2</sup> (Daletec AS, Norway) or Art# 802538, 100% CO, Twill, coated backside, 325 g/m<sup>2</sup> (Daletec AS, Norway)
- Quality 25: Art# Ultra soft style 301, 88% CO/12% Nylon, 235 g/m<sup>2</sup> (Westex Inc., USA)
- Quality 28: Art# 142831, 75% CO, 25% PES, 290 g/m<sup>2</sup> (Daletec AS, Norway).

Garments are insulated with a quilted lining and optionally with PU membrane, 90 g/m<sup>2</sup>.

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/m<sup>2</sup> (Daletec AS, Norway)
- Art# ZAE001, 100% CO, 170 g/m<sup>2</sup> (Shenzhen Tecron Safety Co. Ltd., China)
- Art# F.R21\*21\*108\*58\*57"/58", 100% CO, 205 g/m<sup>2</sup> (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/m<sup>2</sup>. Elastic bands are supplied by Alge Elastic GmbH., Austria. Zippers used are YKK Polyester Coil Zippers.

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 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 12213RDS01rev10.



**Technical documentation regarding EC type examination certificate  
12213RDS01rev10**

Product name: Multi-Layer Non-Anti-Static Protective Clothing

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

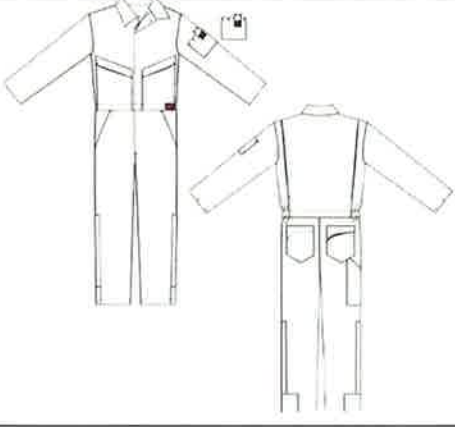

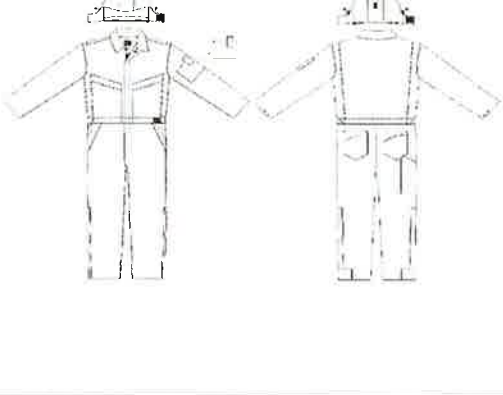
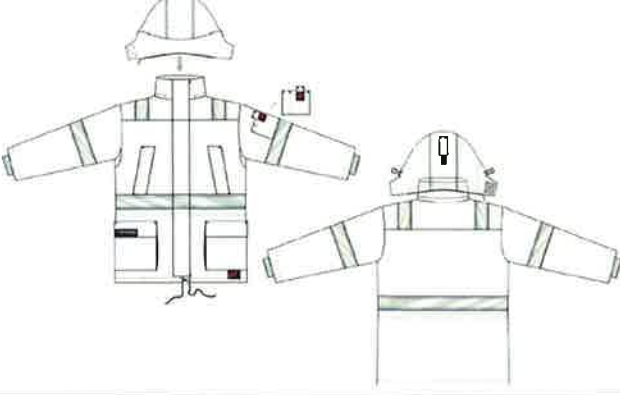
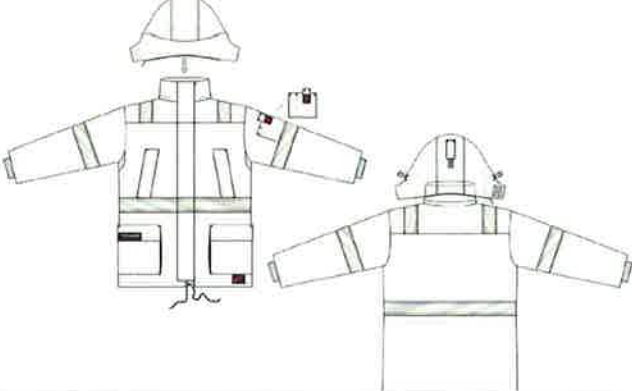
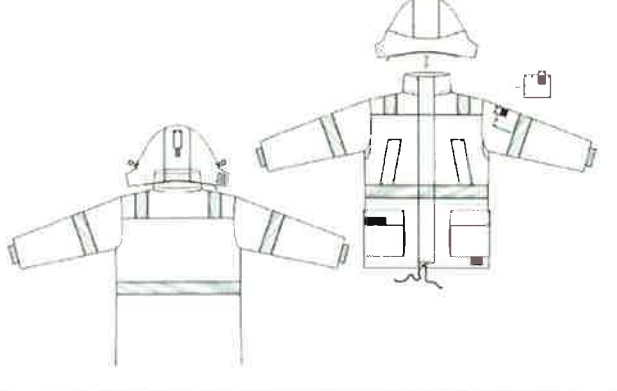
| <i>Item of technical documentation</i>                              | <i>Document identification</i>  | <i>Assessment</i>  |
|---|---|--|
| 1. Application for the EC type examination                          | 2012-02-12<br>2013-05-24<br>2013-07-16 (Pattern 629)<br>2014-07-08 (Quality 16)<br>2014-10-07 (Quality 28)<br>2014-11-21 (Quality 20)<br>2016-12-15<br>2017-07-12 (ZAE001)<br>2017-08-18<br>2017-09-13 (Quality 20, #802538<br>Revision request, 2017-10-02 |  |
| 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 3.1-3.27  |  |
| 3.1 FIOH assessment of relevant Directive basic requirements        | 2017-10-16  | The applied harmonised standards EN ISO 13688:2013 and EN ISO 11612:2015 support the relevant requirements |
| 3.2 West Yorkshire Materials Testing Service test report            | No. 67494, 2014-11-14<br>Quality 20: Art# 802536  | Material meets the requirements of EN ISO 11612:2015, A1 A2 B1 C1  |
| 3.3 West Yorkshire Materials Testing Service test report            | No. 67563, 2014-11-28<br>Quality 20: Art# 802536  | Material meets the requirements of IEC 61482-1-2:2007 class 1 (4 kA)                                       |
| 3.4 West Yorkshire Materials Testing Service test report            | No. 83694 (Amended), 2017-04-27<br>Quality 20: Art# 802538  | Material meets the requirements of EN ISO 11612:2015, A1 A2 B1 C1  |
| 3.5 Kinetrics test report   | No. K-419929-1705B01 R01,<br>2017-09-12<br>Quality 20: Art# 802538  | Material meets the requirements of IEC 61482-1-2:2007 class 1 (4 kA)                                       |
| 3.6 FIOH test report  | No. 163631T01rev1, 2011-06-30<br>Assemblies of Quality 15 and Quality 20 with wadding G150 with scrim and inner lining 170 g/m <sup>2</sup>   | Material assemblies meet the requirements of EN ISO 11612:2015, A2 B2 C2 F3                                |
| 3.7 BTTG test report  | Ref: 30/02830/2, 2006-09-25<br>Quality 25: Art# Indura Ultra Soft s/301   | Material meets the requirements of EN ISO 11612:2015, A1 B1 C1   |
| 3.8 STFI test report  | Test Certificate No. Z 3708/08-4785/08, 2008-06-20<br>Quality 25: Art# Indura Ultra Soft S/301  | Material meets the requirements of IEC 61482-1-2:2007 class 1 (4 kA)                                       |
| 3.9 FIOH test report  | No. 163634T01, 2011-04-29<br>Assembly of Quality 25, Art# Ultrasoft 301, with wadding G150 with scrim and inner lining 170 g/m <sup>2</sup>   | Material assembly meets the requirements of EN ISO 11612:2015, A2 B2 C2 F2                                 |
| 3.10 West Yorkshire Materials Testing Service test report           | No. 38652-01, 2009-07-03<br>Quality 28: Art# 142831   | Material meets the requirements of EN ISO 11612:2015, A1 B1 C1   |
| 3.11 FIOH test report   | No. 364104T01, 2017-10-02<br>Quality 28: Art# 142831  | Material meets the requirements of EN ISO 11612:2015 for limited flame spread A2                           |
| 3.12 STFI test report   | No. 0415/08, 2009-04-25<br>Quality 28: Art# 142831  | Material meets the requirements of IEC 61482-1-2:2007 class 1 (4 kA)                                       |



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| 3.13 FIOH test report  | No. 163634T01, 2011-04-29<br>Assembly of Quality 25, Art#<br>Ultrasoft 301, with wadding G150<br>with scrim and inner lining 170 g/m <sup>2</sup> | Material assembly meets the<br>requirements of EN ISO<br>11612:2015, A2 B2 C2 F2  |
| 3.14 West Yorkshire Materials<br>Testing Service test report   | No. 36291, 2008-08-22<br>Art# 101731  | Inner lining material meets the<br>requirement of EN ISO 14116:2015<br>index 3 for limited flame spread   |
| 3.15 Intertek test report  | No. GZHT01797896, 2017-07-12<br>No. GZHT01786926, 2017-06-28<br>100% cotton, Plain weave woven<br>fabric, 170 g/m <sup>2</sup><br>Art# ZAE001     | Inner lining material meets the<br>requirement of EN ISO 14116:2015,<br>limited flame spread index 3  |
| 3.16 SGS test report   | No. QD1104529-1/TX, 2011-04-19<br>Woven 100% cotton<br>F.R21*21*108*58*57"/58"  | Inner lining material meets the<br>requirement of EN ISO 14116:2015<br>index 3 for limited flame spread   |
| 3.17 Aitex test report   | No. 2011EP0535, 2011-06-22<br>Coverall 604 in quality 15,<br>Art# 112241  | Garments meet the requirements of<br>IEC 61482-2:2009 class 1 (4 kA)  |
| 3.18 FIOH test report  | No. 176124T01, 2011-09-27<br>FR Antistatic Modacrylic Cotton Knit   | Ventilation opening material meets<br>the requirements of EN ISO<br>11612:2015, A1 B1 C1  |
| 3.19 Intertek test report  | No. 397264/07, 2007-04-16<br>Miraflex black knitted cuffing fabric  | Material meets the requirements of<br>EN ISO 14116:2015 index 3   |
| 3.20 ÖTI test report   | No. 65519, 2011-03-21<br>Elastic tapes  | Elastic tapes meet the requirements<br>of EN ISO 11612:2015 for limited<br>flame spread and heat resistance<br>260°C  |
| 3.21 FIOH test certificate   | No. 325539T01rev1, 2016-11-11<br>LOXY 9801  | Retroreflective material meets the<br>requirements of EN ISO<br>20471:2013, EN ISO 11612:2015<br>for limited flame spread A1 and heat<br>resistance, and EN 1149-5:2008   |
| 3.22 Swerea IVF test report  | Test Certificate, 2004-11-26<br>Stonor art. 9808  | Retroreflective materials meet the<br>requirements of EN 471:2003 and<br>and EN ISO 14116:2015 index 3 for<br>limited flame spread  |
| 3.23 MTL test report   | Certificate of Test, 2005-06-03<br>3M Scotchlite 9687 Fluorescent<br>lime-yellow fire coat trim   | Retroreflective material meets the<br>requirements of EN ISO 20471:2013<br>for retroreflection (silver part) and<br>for chromaticity (yellow part), and<br>EN 469:2005 for heat resistance<br>and for retroreflection after<br>exposures to heat and radiant heat |
| 3.24 FIOH test report  | No. 163633T01rev1, 2011-06-30<br>Seam, chain stitch with overlocking<br>and two stitchings  | Seam meets the requirements of<br>EN ISO 11612:2015 for limited<br>flame spread A1+A2 and for seam<br>strength  |
| 3.25 FIOH test report  | No. 362772T01, 2017-09-04<br>YKK Polyester Coil Zipper on fabrics<br>Q11 & 21 and Q15   | Zipper meets the requirements of<br>EN ISO 11612:2015 for limited<br>flame spread A1 and heat resistance  |
| 3.26 Draft information sheet   | User information  | Document meets the requirements<br>of the Directive, EN ISO<br>13688:2013, EN ISO 11612:2015<br>and IEC 61482-2:2009  |
| 3.27 Product markings  | Drafts of markings in the garment<br>specifications   | Markings meet the requirements of<br>EN ISO 13688:2013, EN ISO<br>11612:2015 and IEC 61482-2:2009   |
| 4. Description of the production<br>quality system and related<br>product control and test<br>facilities | ISO 9001:2008 Certificate No.<br>43276, 2012-05-21  | Agreement with FIOH on the EC<br>quality control system for the final<br>product (PPE category III product)   |

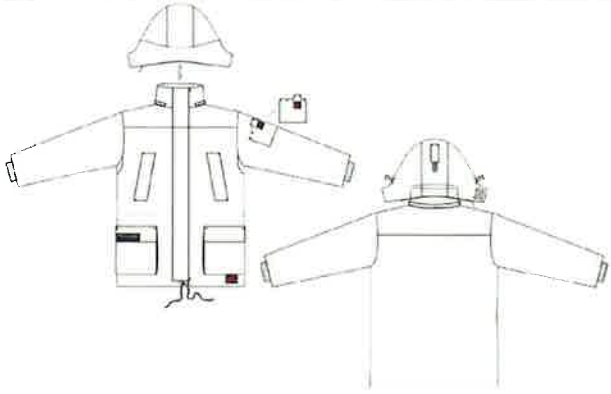
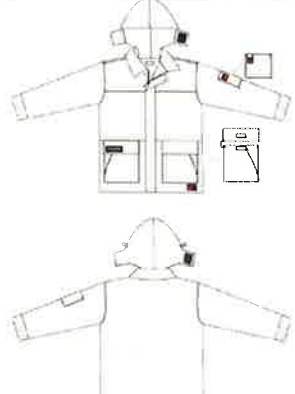
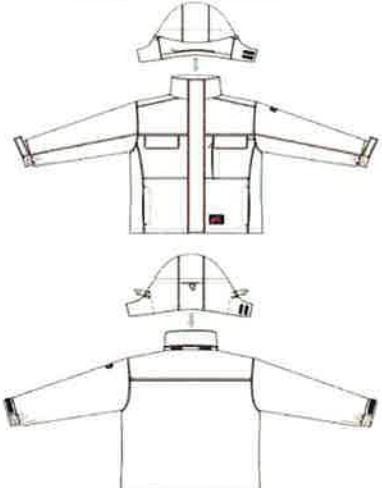
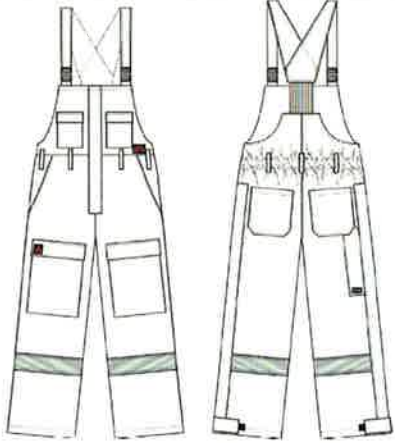
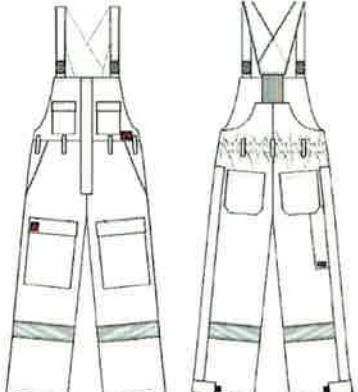
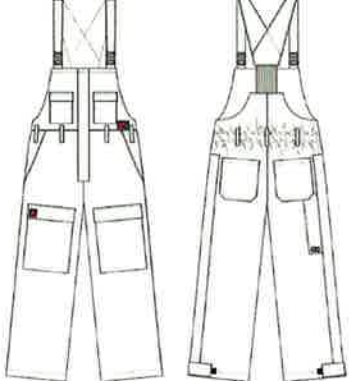


**Pictures of the different basic styles**

|   |  |
|---|--|
| Style RW 602 FR Lined Coverall  | Style RW 604 FR Lined Coverall   |
|    |    |
| Style RW 605 FR Lined Coverall  | Style RW 622 FR Parka  |
|  |  |
| Style RW 624 FR Parka   | 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  | Style RW 644 FR Winter Bib'n Brace   |
|  |  |