LAKELAND FR COMFORT/FRC

Models:
EFRC330, EFRC260A,
EFRC240

Instructions for Use

EN | ZH-cn

Garments manufactured by and on behalf of:
Corporate Address: Lakeland Fire and Safety, 1525 Perimeter Parkway, Suite 325, Huntsville, Alabama 35806, USA.

EU Authorised Representative:
Authorised Representative Service, 77 Camden Street Lower, Dublin, D02 XE80, Ireland.

PPE Regulation Correspondence:
Lakeland Industries Europe, Units 9 & 10 Jet Park, Newport, East Yorkshire, HU15 2JU, UK.

Module D CE Certification: CE 2895 Shirley Technologies Europe Limited, Sky Business Centres, Unit 21 Block 1 Port Tunnel Business Park, Clonshaugh Business and Technology Park Dublin, Ireland

Module B Certification EFRCI330JT13 & EFRCI330PT13:
CE 0161 Aitex. Plaza Emilio Sala 1, 03801 ALCOY (ALICANTE)

Module B Certification EFRC products:
CE 2777 SATRA Technology Europe Ltd, Bracetown Business Park, Clonee, Dublin, Ireland

Finished Garment Certification

	Protection	EN Standard	EFRC330	EFRC260A	EFRC240
	Heat & flames	EN ISO 11612:2015	●	●	●
	Welding & allie processes	EN ISO 11611:2015	●	●	●
	Electric Arc	IEC 61482-2:2018 / EN 61482-2:2020	●	–	●
	Anti-Static	EN 1149-5:2018			●
	Protective clothing – General requirements	EN ISO 13688:2013 +A1:2021	●	●	●
	Arc Rating and Standard Specification for Face Protective Products	ASTM F 2178:2022 (face shield only)			●

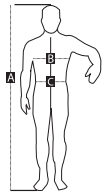
Fabric Heat Performance Values

Heat Type	EN Standard	EFRC330	EFRC260A	EFRC240
Heat Resistance	ISO 17493	Pass	Pass	Pass
Limited Flame Spread (A1) Face Ignition	ISO 15025	A1	A1	A1
Limited Flame Spread (A2) Edge Ignition		A2	A2	A2
Convective Heat (B)	ISO 9151	B1	B1	B1
Radiant Heat (C)	ISO 6942	C1	C1	C1
Molten Metal	ISO 9150	-	Class 1	Class 1
Splashes of Molten Metal (iron) (E)	ISO 9185	-	Class 1	E1
Contact Heat (F)	ISO 12127-1	-	-	-

Fabric Physical Performance Values

Property	EN Standard	EFRC330	EFRC260A	EFRC240
Tensile Strength	ISO 13934-1	1700 N / 780 N	929 N / 610 N	787 N / 408 N
Tear Strength	ISO 13937-2	28.6 N	17 N / 15 N	23 N / 20 N
Seam Strength	ISO 13935-2	323.00 N	272.00 N	TBC
Arc Rating - ATPV - kcal/cm²	IEC 61482-1-1	-	-	9 cal/cm²
Arc Rating - ELIM	IEC 61482-1-1	-	-	-
Arc Rating - APC	EN 61482-1-2	Class 1	-	-
Charge Decay	EN 1149-3	Pass	Pass	Pass

Garment Sizing (cm)



	A	B	C
XS	158-164	76-84	76-82
SM	164-170	84-92	82-88
MD	170-176	92-100	88-94
LG	176-182	100-108	94-100
XL	182-188	108-116	100-106
2X	188-194	116-124	106-112
3X	194-200	124-132	112-114

Note: Waist size (C) - applies to trousers only

Explanation of Other labels / symbols


Refer to user Instructions

Wash at 40°


Do Not Bleach


Do Not Iron


Do Not Dry Clean


Do Not Tumble Dry

Max. 5 washes

To download EU Declaration of Conformity for Lakeland products: please use the URL below or QR code.

https://www.lakeland.com/uploads/data-sheets/Europe/Declarations-of-Conformity/DeclarationsOfConformity_v3.pdf

LAKELAND FIRE + SAFETY

Instructions for Use
Models: EFRC 330, EFRC260A, EFRC240

EN

Finished Garment Certification
EN ISO 11612:2015 - Clothing for Protection against Flames & Heat
EN ISO 11611: 2015 - Clothing for Welding and Allied Processes
IEC 61482-2:2018 Protective Clothing against the Hazards of an Electric Arc (EFRC330)
EN 1149-5:2018 Anti-Static Properties
EN ISO 13688:2013+A1:2021 Protective Clothing – General requirements
ASTM F 2178:2022 (face shield only) - Arc Rating and Standard Specification for Face Protective Products (EFRC240)

Fabric Heat Performance Values
EN 17493 - Heat Resistance
ISO 15025: 2016- Flame Spread - Face Ignition (A1)
ISO 15025:2016 - Flame Spread - Edge Ignition (A2)
ISO 9151 - Convective Heat
ISO 6942 - Radiant Heat
ISO 9150 – Molten Metal
ISO 9185 – Splashes of Molten Metal (iron) (EFRC240)
ISO 12127 - Contact Heat

Fabric Physical Performance Values
ISO 13934-1 - Tensile strength
ISO 13937-2 - Tear strength
ISO 13935-2 - Seam strength
IEC 61482-1-1 - Arc Rating ATPV
IEC 61482-1-1 - Arc Rating ELIM
EN 61482-1-2 - Arc Rating APC
EN 1149-3 - Charge decay

Other labels / symbols:
Refer to User Instructions
Wash at 40°C / For detailed wash instructions see *www.lakeland.com/europe* / Do Not Bleach / Do Not Iron / Do Not Dry Clean / Do Not Tumble Dry

Protective clothing meeting the requirements of PPE Regulation 2016/425 and EN ISO 13688 and manufactured under ISO 9001 & Module D requirements

Selection of the appropriate garment is the users' responsibility. Ensure garment is not damaged before use. Coveralls and Partial Body (PB) garments will protect only the parts of the body they cover.

Storage: Hang (rather than fold) in clean, dry conditions. Keep cool and dry and away from direct sunlight.

EN ISO 11611 & EN ISO 11612

The limited flame spread properties will be reduced if the garment is contaminated with flammable materials.
The clothing does not protect against large splashes of molten metal in foundry operations - eg Aluminium (Code D) or iron (Code E)
Dirty Clothing may also lead to reduction in protection.
The insulating effect of the clothing will be reduced by wetness, humidity, dirt or sweat.
Additional protection may be required for certain welding operations - eg overhead welding.
For operational reasons not all welding voltage carrying parts of arc welding installations can be protected against direct contact.
A local increase in the oxygen content of the air will reduce the protection of welders protective clothing against flame. Care should be taken when welding in confined spaces if it is possible that the atmosphere may become contaminated with oxygen.
Results are based on pre-treatment wash of 5 cycles.
Individual part body items should be worn in conjunction with additional garments for full protection. These must be compliant with EN ISO 11612 or 11611 dependent on what protection you need
For additional body protection – the garment is intended for use in addition to protective clothing providing protection against welding hazards.
It is advised not to wash contaminated clothing in domestic machines because of the risk of contamination of other clothing.
Further guidance on choosing welder's clothing can be found by referring to Annex A of EN

Repair to Lakeland FR garments is not advised as this may result in compromising the protective performance

Uncontaminated garments can be disposed of normally. Contaminated garments must be decontaminated or disposed of according to local requirements

In the event of accidental splash of chemical, flammable liquids or molten metal whilst wearing these garments, wearer should immediately withdraw and carefully remove garment ensuring no contact with contamination/splash. Also note, if the garment is worn next to the skin in the event of molten metal splash risk of burn may not be completely eliminated.

Jacket and trousers must be worn to achieve stated performance values and protection

In the event of an accidental splash of chemical or flammable liquids on clothing while being worn, the wearer should immediately withdraw and carefully remove the garments, ensuring that the chemical or liquid does not come in contact with any part of the skin. The clothing shall then be cleaned or removed from service.

In the event of a molten metal splash the user shall leave the working place immediately and take off the garment. In the event of a molten metal splash, the garment, if worn next to the skin, may not eliminate all risks of burn.

ISO 11611
The level of protection against flame will be reduced if the welders' protective clothing is contaminated with flammable materials.

An increase in the oxygen content of the air will reduce considerably the protection of the welders' protective clothing against flame.

Care should be taken when welding in confined spaces, e.g. if it is possible that the atmosphere may become enriched with oxygen.

The electrical insulation provided by clothing will be reduced when the clothing is wet, dirty, or soaked with sweat.

For two-piece protective clothing, a warning that both items shall be worn together to provide the specified level of protection.

Welder's protective clothing be cleaned regularly in accordance with the manufacturer's recommendations. After cleaning, the clothing shall be visually inspected for any sign of damage.

If user experiences sunburn-like symptoms, UVB is penetrating, the garment should be replaced and consideration given to the use of additional, more resistant, protective layers in future.

Repairs carried out with a flammable or melting thread would be very dangerous in the event of exposure to flame

Scope of Protection
Lakeland FR garments are intended to protect the wearer against:-

Brief contact with flame (Code A) / Convective Heat (B) / Radiant Heat (C) / Small splashes of molten metal.

The thermal hazards of electric arc.

Additional partial body protection may be required e.g. when welding overhead.

11611 garments – are only intended to protect against brief contact with live parts of an arc welding circuit, where there is increased risk of electric shock additional insulation layers must be worn. Are only designed to provide protection against short term accidental contact with live electrical conductors with voltages up to approx. 100Vdc.

EN 61482-2:
Environmental conditions and risks on site shall be regarded, the protective clothing shall be worn in a closed state, the clothing is not intended to be an electrical insulator and does not protect against electric shock , for full body protection suitable additional equipment shall be used (helmet, boots, face screen, gloves), no garments at risk of melting shall be worn under these garments (polyamide, polyester, acryl fibres etc)

Protective clothing that becomes contaminated with grease, oil, or flammable liquids or combustible materials should not be used;

- protective clothing should be cleaned when necessary;
- protective clothing that is damaged to the extent that its protective qualities are impaired (e.g. holes in the garment, not functioning closures) should not be used;

Lakeland FR garments should be correctly maintained and kept clean and undamaged. However, do not use if damaged or dirty.

EN 1149-5
Fabrics are treated to meet the requirements of EN 1149-1:2006 & EN 1149-5:2018. EN 1149 is stated in ATEX and German regulation TRBS 2153 (replacement for BGR 132) as the best determination of suitability for protective clothing in explosive/oxygen enriched or Zone 0 atmospheres. This does not imply garments are suitable for use in all explosive atmospheres. A risk assessment should be conducted by qualified personnel. In addition in any explosive atmosphere:- electrostatic dissipative protective clothing is intended to be worn in Zones 1, 2, 20, 21 and 22 (see EN 60079-10-1 and EN 60079-10-2) in which the minimum ignition energy of any explosive atmosphere is not less than 0,016 mJ

Garments should be worn correctly, fully closed. The garment should fully cover any non-dissipative clothing during normal use including when bending and moving.

Wearer should be properly earthed / Do not adjust or remove in use, clothing shall be worn in such a way that it permanently covers

All non-complying materials during normal use (including bending movements). Any footwear or materials between the garment fabric and the floor should have a resistance lower than 2.5 x10^8 Ω Ohms to allow charge dissipation.

Anti-static treatments may fade and may be affected by wear, tear, contamination and laundering. Do not re-use.

Anti-static testing is conducted in relative humidity of 25% +/- 5%. At lower humidities dissipative properties may be lower. The garment passes the requirement Ljmn, 82/90 ≤30% and Ls, 8/10 ≤15%.

使用说明
型号： EFRC 330, EFRC260A, EFRC240

ZH-cn

成品认证
EN ISO 11612:2015 - 防护火焰和高温的服装
EN ISO 11611:2015 - 焊接及相关工艺用防护服装
IEC 61482-2:2018 - 防护服装抵御电弧危害（EFRC330）
EN 61482-2:2020 - 防护服装抵御电弧危害
EN 1149-5:2018 - 抗静电性能
EN ISO 13688:2013+A1:2021 - 防护服装通用要求
ASTM F 2178:2022 (face shield only) - Arc Rating and Standard Specification for Face Protective Products (EFRC240)

面料热防护性能值
EN 17493 - 耐热性能
ISO 15025:2016 - 火焰蔓延-表面点燃A1
ISO 15025:2016 - 火焰蔓延-边缘点燃A2
ISO 9151 - 对流热
ISO 6942 - 辐射热
ISO 9150 - 熔融金属
ISO 9185 – Splashes of Molten Metal (iron) (EFRC240)
ISO 12127 - 接触热

面料物理性能值
ISO 13934-1 - 拉伸强度
ISO 13937-2 - 撕裂强度
ISO 13935-2 - 接缝强度
IEC 61482-1-1 - 电弧防护评级ATPV
IEC 61482-1-1 - 电弧防护评级ELIM
EN 61482-1-2 - 电弧防护评级APC
EN 1149-3 - 电荷衰减

其他标签/标识说明
请参阅使用说明

40°C水温洗涤/ 详细洗涤指南请访问：www.lakeland.com/europe
/不可漂白/不可熨烫/不可干洗/不可滚筒烘干

本防护服符合PPE法规2016/425 及 EN ISO 13688 标准，并依据 ISO9001 & Module D 要求生产。

选择适当的服装是用户的责任。使用前请确保服装无损坏。连体服和局部防护（PB）服装仅能保护其覆盖的身体部位。

存储建议：悬挂存放（避免折叠），置于清洁干燥环境中。保持阴凉、干燥，远离阳光直射。

EN ISO 11611 & EN ISO 11612

若防护服沾染易燃材料，其有限阻燃性能将降低。

本服装无法防护铸造作业中的大范围熔融金属飞溅。例如铝（Code D）或铁（Code E）。

衣物脏污可能导致防护性能下降。

潮湿、湿气、污垢或汗水会降低服装的隔热效果。

某些焊接操作（例如仰焊）可能需要额外防护。

因操作限制，电弧焊设备的带电部件无法全部绝缘以防止直接接触。

空气中局部氧气含量升高会削弱焊工防护服的防火性能。在密闭空间焊接时，若存在氧气污染风险需格外谨慎。

测试结果基于5次预处理洗涤周期。

局部防护装备需搭配符合 EN ISO 11612 或 11611 （根据防护需求选择）的其他服装，以实现全面保护。

为了提供额外的身体保护——该服装旨在与防护焊接危害的防护服一起使用。

请勿在家用洗衣机中清洗受污染的服装，以免交叉污染其他衣物。

选择焊工防护服的进一步指引，请参考 EN附录A。

不建议修补 Lakeland FR 服装，以免影响防护性能。

未受污染的服装可按常规废弃；受污染服装需根据当地规定去污或特殊处理。

如果在穿着这些服装时意外接触到化学品、易燃液体或熔融金属飞溅，穿戴者应立即撤离并小心脱下服装，确保不接触污染物/飞溅物。此外请注意，如果服装直接贴身穿戴，在熔融金属飞溅的情况下，烧伤风险可能无法完全消除。
必须同时穿戴夹克和裤子，以达到规定的性能值和防护效果。

如果在穿着过程中服装意外接触到化学品或易燃液体，穿戴者应立即撤离并小心脱下服装，确保化学品或液体不接触皮肤的任何部位。随后，服装应进行清洗或停止使用。

如果发生熔融金属飞溅，使用者应立即离开工作场所并脱下服装。如果服装直接贴身穿戴，在熔融金属飞溅的情况下，可能无法完全消除烧伤风险。

ISO 11611
若焊工防护服被易燃材料污染，其防火性能将降低。

空气中氧气含量的增加会显著削弱焊工防护服的防火性能。

在密闭空间（例如可能形成富氧环境的场合）进行焊接时，需格外谨慎。

当防护服潮湿、脏污或被汗水浸透时，其提供的电绝缘性能会降低。

关于两件式防护服的警告：必须同时穿着上下装，以达到标称防护等级。

焊工防护服应依据制造商建议定期清洁。清洁后需目视检查服装是否有损坏迹象。

若使用者出现类似晒伤的症状（表明UVB紫外线穿透），应立即更换服装，并考虑未来使用更耐用的附加防护层。

使用易燃材料（例如可燃或熔融性缝线）进行修补，在接触火焰时将极其危险。

服装的防护范围包括
Lakeland 阻燃服装旨在保护穿戴者免受以下危害：

短暂接触火焰（Code A）/ 对流传热（B）/ 辐射热（C）/ 小范围熔融金属飞溅。

电弧的热危害。

可能需额外局部身体防护（例如仰焊时）。

11611系列服装– 仅用于防护电弧焊接回路带电部件的短暂接触；若触电风险较高，必须穿戴额外绝缘层。– 仅设计用于防护与带电导体（电压最高约100Vdc）的短期意外接触。

EN 61482-2:
需考虑现场环境条件及风险，防护服应保持闭合状态。本服装并非电绝缘体且不提供触电防护。为达到全身防护，需使用合适的额外装备（头盔、靴子、面罩、手套）。禁止在服装内穿着可能熔化的衣物（聚酰胺、聚酯、丙烯酸纤维等）。

防护服若被油脂、油污、易燃液体或可燃材料污染则不得使用。

- 必要时需清洁防护服；
- 若防护服损坏至防护性能受损（例如衣物破洞、闭合装置失效）则不得使用；

Lakeland FR服装应正确维护并保持清洁无损坏。若已损坏或脏污，请勿使用。

EN 1149-5
面料经过处理以满足 EN 1149-1:2006 和 EN 1149-5:2018 的要求。EN 1149 在ATEX 和德国法规 TRBS 2153（替代 BGR 132）中被认定为适用于爆炸性/富氧Zone 0 环境中的防护服的最佳标准。这并不意味着服装适用于所有爆炸性环境。应由合格人员进行风险评估。此外，在任何爆炸性环境中：静电消散防护服适用于 Zones 1、2、20、21 和 22（参见 EN 60079-10-1 和 EN 60079-10-2），其中任何爆炸性环境的最小点燃能量不低于 0.016 mJ。

服装应正确穿着并完全闭合。在正常使用（包括弯腰和移动）时，服装需完全覆盖所有非消散性衣物。

穿着者需妥善接地/使用过程中不得调整或脱卸，服装应始终覆盖所有不符合标准的材料（包括弯曲动作）。

服装面料与地面之间的鞋类或其他材料的电阻需低于2.5×10^8 Ω，以确保电荷消散。
抗静电处理可能因磨损、撕裂、污染或洗涤而失效，禁止重复使用。

抗静电测试在相对湿度25%±5%的环境下进行。若湿度更低，消散性能可能降低。服装通过以下测试要求：Ljmn, 82/90≤30% 和 Ls, 8/10≤15%。