

# CLYDESDALE

## Powering the Future

### User Instructions:

### NOAH AS Garments

#### Clydesdale NOAH AS Arc Resistant Coveralls

Product No's:

CLY 582 125 xy\*



#### Clydesdale NOAH AS Arc Resistant Jackets

Product No's:

CLY 585 125 x\*



#### Clydesdale NOAH AS Arc Resistant Trousers

Product No's:

CLY 583 125 xxy\*



#### Clydesdale NOAH AS Arc Resistant Labcoat

Product No's:

CLY 584 125 x\*



*\*Size of garment is added to end of part number (see section 2).*

*Example of coverall sizing is CLY 582 125 4R*

*Example of Trousers sizing is CLY 583 125 34T*

*Example of Jacket sizing is CLY 585 125 5*

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The products described on Page 1 are referred to as 'the PPE' or 'the garment(s)' in this document. 'The User' is the wearer of the PPE. The PPE conforms with the European PPE Directive 89/686/EEC through compliance with EN ISO 11612:2008, IEC 61482-2:2009, EN 61482-1-1:2009, EN 61482-1-2:2007, EN1149-3:2004, EN1149-5:2008 as well the Essential Health and Safety Requirements according to PPE directive, Article 3.

#### **CAREFULLY READ THESE INSTRUCTIONS BEFORE USING THIS PRODUCT**

##### **1. Intended Use of the PPE:**

**THE PPE IS PRIMARILY INTENDED TO PROTECT THE USER FROM THE THERMAL EFFECTS OF AN ELECTRIC ARC FLASH. IT HAS ALSO PROTECTS FROM SEVERAL CATEGORIES OF HEAT TRANSFER, MOLTEN METAL SPLASH AND CONTROLS STATIC ELECTRICAL DISCHARGE (SEE TABLE)**

The PPE is **NOT** intended to be used to provide protection against other risks such as electric shock, mechanical impact, mechanical vibration, physical injury (abrasion, perforation, cuts, bites) or harmful effects of noise.

**THE PPE MUST NOT COME IN TO CONTACT WITH LIVE EQUIPMENT. WHENEVER POSSIBLE, ALWAYS DE-ENERGISE CIRCUITS BEFORE WORKING ON OR AROUND THEM.**

The PPE is only intended to provide protection for the arms and torso of the user. Leg, Neck, head, foot and hand protection must also be provided, using compatible PPE as described in section 4 of this document.

The PPE is listed with an Arc Rating (ATPV) as shown in this document.

Arc Thermal Performance Value (ATPV) is the incident energy from an electrical arc on a fabric, garment or a multi-layered system that results in a 50% probability that sufficient heat transfer through the tested specimen is predicted to cause the onset of a second degree skin burn injury based on the Stoll curve, without the garment or material breaking open.

For each application where there is a risk of an electric arc occurrence, a suitable Arc Flash Hazard Analysis must always be conducted by a competent person to ascertain the potential incident energy that an electric arc could emit. Each application is unique and can be defined by the following factors: Arc fault current, Supply voltage, Electrode gap, Number of phases of system, Electrical equipment environment (open air or enclosure), Arc duration, Distance of the PPE user to arc. Software for calculating the correct ATPV class can be obtained from <http://www.clydesdale.net/heatflux.asp>.

Once an Arc Flash Hazard Analysis has been conducted, the PPE of an appropriate Arc Rating must be selected.

**THE ARC RATING OF ALL OF THE PPE SELECTED FOR THE APPLICATION MUST BE HIGHER THAN THE CALCULATED INCIDENT ENERGY FROM THE ELECTRIC ARC.**

The PPE should always be worn correctly by the user when entering a hazardous area as follows: All zips should be fully closed, and all hook & pile flaps closed fully and flush with no hook or pile portions exposed. The PPE should not be worn in such a way that the wearer's undergarments or skin may be exposed – for example rolling up sleeves or leaving front poppers undone. The PPE should always fit the user correctly. If the PPE is either too loose or too tight, the PPE will not provide an optimum level of protection. All of the PPE products are available in a range of sizes: XS – 6XL to ensure the PPE can be selected to fit the user correctly.

**IN THE EVENT OF A MOLTEN METAL SPLASH, THE GARMENT, IF WORN NEXT TO THE SKIN, MAY NOT ELIMINATE ALL RISK OF A BURN.**

**WHEN USING THE GARMENTS IN AN ANTI-STATIC CONTROLLED ENVIRONMENT, THE WEARER OF THE ELECTROSTATIC DISSIPATIVE PROTECTIVE CLOTHING SHALL BE PROPERLY EARTHED. THE RESISTANCE BETWEEN THE PERSON AND EARTH SHALL BE LESS THAN  $10^8 \Omega$ , E.G. BY WEARING ADEQUATE FOOTWEAR.**

Electrostatic dissipative protective clothing shall not be used in oxygen enriched atmospheres without prior approval of the responsible safety engineer.

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PPE Protection Chart			
Fabric Properties		Fabric	INDURA Ultrasoft®
		Fabric Style No.	454
		EN 61482-1-1, ATPV Rating (cal/cm²), Open Arc	12.5
		EN 61482-1-2, Arc Class, Box Test	Class 1
		EN ISO 11612, Heat and Flame protection (A1, A2, B1, C1)	
		EN ISO 11612, Molten Iron Splash (E1)	
		EN ISO 11612, Contact Heat Protection (F1)	
		EN1149-5, EN1149-3 Antistatic	
		Weight (g/m²)	330
	Approved Combinations	Clydesdale 12.5 cal/cm² garment worn over a 10.9 cal/cm² rugby shirt has been tested and approved to offer the following performance:	EN61482-1-1, 37cal/cm² EN61482-1-2, Class 2
		Clydesdale NOAH AS Jacket / Trousers or Coverall worn over: Clydesdale CarbonX Long SleeveTop, CLY 586 100 xx and Clydesdale CarbonX Long Johns, CLY 583 100 xx	EN61482-1-2, Class 2

COVERALL - PART NUMBERING										
ORDER CODE (x)	0	1	2	3	4	5	6	7	8	9
ORDER CODE y="R" REGULAR INNER LEG LENGTH 76 (30")										
CHEST	88-96 (35-38)	92-100 (36-39)	96-104 (38-41)	100-108 (39-43)	104-112 (41-44)	108-116 (43-46)	112-120 (44-47)	116-124 (46-49)	120-128 (47-50)	124-132 (49-52)
SLEEVE	63 (25)	63 (25)	64 (25)	64 (25.5)	65 (25.5)	66 (26)	66 (26)	67 (26.5)	67 (26.5)	67 (26.5)
SIZE ON LABEL	XS	S	M	L	XL	2XL	3XL	4XL	5XL	6XL
ORDER CODE y="T" TALL INNER LEG LENGTH 81 (32")										
CHEST	88-96 (35-38)	92-100 (36-39)	96-104 (38-41)	100-108 (39-43)	104-112 (41-44)	108-116 (43-46)	112-120 (44-47)	116-124 (46-49)	120-128 (47-50)	124-132 (49-52)
SLEEVE	67 (26.5)	67 (26.5)	68 (27)	68 (27)	69 (27)	69 (27)	70 (27.5)	70 (27.5)	71 (28)	71 (28)
SIZE ON LABEL	XST	ST	MT	LT	XLT	2XLT	3XLT	4XLT	5XLT	6XLT

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TROUSERS - PART NUMBERING									
ORDER CODE 2 (y = "R")					REGULAR INSIDE LEG LENGTH 30"				
ORDER CODE 1 (xx) WAIST	30	32	34	36	38	40	42	44	46
ORDER CODE 2 (y = "T")					TALL INSIDE LEG LENGTH 32"				
ORDER CODE 1 (xx) WAIST	30	32	34	36	38	40	42	44	46
ORDER CODE 2 (y = "X")					EXTRA TALL INSIDE LEG LENGTH 34"				
ORDER CODE 1 (xx) WAIST	30	32	34	36	38	40	42	44	46

JACKET / LAB COAT - PART NUMBERING										
ORDER CODE 1 (x)	0	1	2	3	4	5	6	7	8	9
CHEST	88-96 (35-38)	92-100 (36-39)	96-104 (38-41)	100-108 (39-43)	104-112 (41-44)	108-116 (43-46)	112-120 (44-47)	116-124 (46-49)	120-128 (47-50)	124-132 (49-52)
SLEEVE	63 (25)	63 (25)	64 (25)	64 (25)	65 (25.5)	65 (25.5)	66 (26)	67 (26.5)	67 (26.5)	67 (26.5)
SIZE ON LABEL	XS	S	M	L	XL	2XL	3XL	4XL	5XL	6XL

### 3. Cleaning, Maintenance and Life Span:

The PPE should be kept clean & dry to provide the optimum level of protection. **SOILED CLOTHING PROTECTS LESS.**

#### Explanation of symbols:



The PPE should not be washed in temperatures over 75°C\*.



The PPE is dry-cleanable. Do not use trichloroethylene.



Tumble dry at normal temperature\* Do not Over-dry.



Chlorine bleaches such as those containing sodium hypochlorite, oxygen bleaches such as hydrogen peroxide as well as soaps (salts of fatty acids) should not be used to wash the PPE either separately or in detergents as they may affect the protective properties of the PPE

**\*Note:** To maintain the performance of the Chemical Resistant coating, it is necessary to wash the NOAH AS garment in the Clydesdale Fluorocarbon AS protector. Instructions for this procedure are provided with the FC product on its packaging.

In order to provide an optimum level of protection, the PPE must be maintained in its original condition. If the PPE becomes damaged due to factors such as rips, cuts, abrasion and perforation, it may not provide the optimum level of protection and must be replaced.

Do not attempt to repair the PPE.

The PPE's protective properties are permanent, tested and guaranteed for its entire life span - the arc flash and flame retardant properties cannot be washed out.

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#### **4. Compatibility and Accessories:**

Suitable combinations of the PPE must be worn to provide complete limb and torso protection from the thermal effects of an electric arc flash. Any garments from the Clydesdale NOAH system may be worn together as part of a complete protection system in conjunction with these NOAH AS garments.

It is strongly recommended that a Clydesdale NOAH long sleeve polo shirt or Arc Rated SITEX underwear is worn as a minimum under these NOAH AS garments. Care should be taken to ensure no pieces of these undergarments be exposed to preserve the antistatic protection offered.

Any clothing worn under a Clydesdale NOAH garment should be of a non-melting construction to ensure the effectiveness of the NOAH protection.

For neck and head protection from the thermal effects of an electric arc flash, the use of a Clydesdale Arc Flash Protection Hood or Visor with an equal or higher Arc Rating to the main PPE is recommended. Please contact Clydesdale for further details.

For hand protection it is recommended that appropriate Clydesdale Insulating Gloves are worn in conjunction with Clydesdale Leather Protector Gloves to provide mechanical protection. Please contact Clydesdale for further details.

Foot protection should be provided for with heavy duty leather work shoes which will normally provide a significant level of protection of 5 cal/cm<sup>2</sup> and above.

No modification of the PPE is permitted, including affixation of logos, after the EC Type-Examination.

#### **5. Storage and Transport:**

The PPE is packed and delivered in a clear polythene bag. The PPE should be stored or transported, preferably in a similar polythene bag, in a dry and dust free environment, protected from mechanical effects, UV light, temperature extremes and chemicals which may damage the PPE. This polythene bag must be disposed of in accordance with company and government guidelines

#### **6. Significant Markings:**

Each PPE garment has an external transfer marking indicating the Arc Rating at which the PPE can protect the user. This depicts a flame symbol together with the Arc Rating in cal/cm<sup>2</sup> of the garment. An internal label indicates the Arc Rating and double triangle symbol, arc class, CE mark, extended protection offered, manufacturers details, product reference numbers, EN ISO 11612 flame symbol and code letters and additional relevant standards the PPE conforms to. A further internal label shows the sizing and washing information

**7. Details of Notified Body:** BTTG Certification Services, Unit 14, Wheel Forge Way, Ashburton Rd West, Trafford Park, Manchester, M17 1EH, United Kingdom. Notified Body #0338 and #0339