



PERFORMANCE WEAR

ABOUT COATS®

We are global leaders in the design and supply of industrial threads, zips, engineered yarns and trims. Our comprehensive range of products are designed to deliver customers' desired strength and performance characteristics and are supported by a suite of value added services to help customers improve efficiency and solve problems. As an innovator and pioneer, Coats® is the first choice for manufacturers of high quality textiles.

PERFORMANCE WEAR

- Performance Wear covers a wide variety of garments ranging from protective clothing and workwear to uniforms and gloves. These garments are expected to perform in differing, demanding conditions like heat plus other end use applications including bullet-proof requirements, arc resistance and cut resistance.
- Innovative materials made from meta-aramids, para-aramids or blends, provide final garments improved functionality and durability coupled with better comfort and, in some cases, a sense of fashion.
- Coats® comprehensive and cost-effective range of threads, engineered yarns and zips, trims and tapes for performance wear meet important industry norms and standards as well as deliver consistent superior quality and value - globally.



| | | | | | | | | | | | | |
|---|---|--|--|--------------------------------------|---------------------------|-----------------------------|---|------------------------------|-------------------------|---------------------|--|----------------------------|
| Heat & Flame Protection EN 469 Fire Fighters, NFPA 1971, NFPA 1975, NFPA 1977 | Heat & Flame Protection EN ISO 1611 Welding, NFPA 2112 | Heat & Flame Protection EN ISO 11612 Industrial Heat and Flame | Heat & Flame Protection EN ISO 14116 Industrial Heat and Flame | Electro Static Protection EN 1149 | Chemical: Acid Protection | Chemical: Alkali Protection | Clean Room Protection: Silicone Free | Cut & Abrasion Protection | Foul Weather Protection | Workwear / Uniforms | Electric ARC Protection NFPA 70E, EN 470, EN 149-1, EN 61340 | US Military Specifications |
|---|---|--|--|--------------------------------------|---------------------------|-----------------------------|---|------------------------------|-------------------------|---------------------|--|----------------------------|

For Protective Clothing

| | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|--|---|---|
| Coats® Pyrostar™ | ★ | ★ | ★ | ★ | | | | | | | | |
| Coats® Firefly™ | ★ | ★ | ★ | ★ | | | | | | | | ★ |
| Coats® Flamepro™ | | | | | | | | | | | ★ | |
| Coats® Flame Master™ | ★ | ★ | ★ | ★ | | | | | | | | ★ |
| Coats® Protos™ Plus | ★ | | | | | | | ★ | | | | ★ |
| Coats® Protos™ Fil | ★ | | | | | | | ★ | | | | |
| Coats® Protos™ Steel | ★ | | | | | | | ★ | | | | |
| Coats® Helios™ | ★ | | ★ | ★ | | | | ★ | | | | |
| Coats® Helios™ K | ★ | | | | | | | ★ | | | | ★ |
| Coats® Aptan™ | | | | | | ★ | | | | | | |
| Coats® Epic™ SIF (antisil) | | | | | | | ★ | | | | | |
| Coats®Gral™AW (anti-wick) | | | | | | | | | ★ | | | |
| Coats®Gral™AST (anti-static) | | | | | ★ | | | | | | | |

For Workwear / Uniforms

| | | | | | | | | | | | | |
|-------------------|--|--|--|--|--|---|--|--|--|---|--|---|
| Coats® Dual Duty™ | | | | | | | | | | ★ | | ★ |
| Coats® Epic™ | | | | | | ★ | | | | ★ | | ★ |
| Coats® Astra™ | | | | | | ★ | | | | ★ | | |

*Helios sewing thread is suitable for use in heat and flame protective clothing according to EN 469, EN ISO 11612 and EN ISO 14116. It is not suitable for use in electrician and welder protective clothing due to the relatively low vertical resistance (< 105 Ω) the material cannot keep down the possibility of electrical shock by contact with live electric conductors.



COATS® PERFORMANCE WEAR

FOR PROTECTIVE CLOTHING

Flame, heat or splashes of molten metal or chemicals – when working under extreme conditions Coats® threads, engineered yarns and zips provide maximum protection – made to protect.



Coats® Pyrostar™

- 100% longstaple spun m-aramid, specially finished
- Outstanding heat and flame protection, up to 370°C
- EN 469, EN ISO 11611, EN ISO 11612 and ISO EN 14116 approved
- Wide range of colours
- Excellent strength, durability and seam appearance
- Specified for fire fighter uniforms, public authority garments and flame retardant embroidery

Coats® Firefly™

- 100% spun m-aramid
- Outstanding heat and flame protection, up to 370°C
- EN469, EN ISO 11611, EN ISO 11612, EN ISO 14116 NFPA 1971, 1975, 1977, 2112 approved
- Wide range of colours
- Excellent sewability and seam integrity
- Specified fire fighters clothing, work wear uniforms and army combat suits
- US Military Spec AA55217

Coats® Flame Master™

- Polyester corespun with polyester wrap
- Excellent permanent flame protection
- EN 469, EN ISO 11611, EN ISO 11612 and ISO EN 14116 approved
- Most extensive shade range
- Superior sewability
- Recommended for firefighters, welders, industrial workers, military and public order personnel

Coats® Protos™ Plus and Protos™ Fil

- Coats Protos Plus: longstaple spun p-aramid
- Coats Protos fil: continuous filament p-aramid
- Outstanding strength for protective apparel providing optimum cut and puncture resistance
- Ideal for fire fighter wear, safety shoes, gloves and bullet proof vests
- High temperature limit up to 400°C
- Coats Protos Plus: US Military Spec AA55195
- Coats Protos fil: US Military Spec AA55220

Coats® Protos™ Steel

- Constructed with a special steel core and a para-aramid wrap
- High temperature limit up to 1000°C
- Outstanding strength
- Ideal for welding blankets, fire curtains, heat and flame protective carpets and industrial heat and flame protective clothing

Coats® Flamepro™

- Innovative family of flame resistant electric arc and cut resistance yarns
- Large selection of fibres
- Ability to blend multiple fibres

Coats® Helios™

- Steel wires wrapped with a flame retardant cotton cover
- High temperature limit up to 600°C without any mechanical strain
- EN 469, EN ISO 11612 and EN ISO 14116 approved
- Provides good sewing performance

Coats® Helios™ K

- Steel wires wrapped with a p-aramid cover
- High temperature limit up to 1000°C without any mechanical strain
- Outstanding strength
- Ideal for welding blankets and curtains, Insulation jackets and Industrial heat & flame protective clothing

Coats® Aptan™

- 100% continuous filament nylon 6,6
- Excellent high speed sewing
- Excellent abrasion resistance

Coats® Epic™ SIF (antisil)

- Polyester corespun with polyester wrap
- Silicone free
- For use in seams where silicone is undesirable, e.g. paint spray coveralls

Coats® Gral™ AW (anti-wick)

- Made from continuous filament polyester with an anti-wick finish
- Specially designed to prevent wicking of water through needle holes and along the thread by capillary action
- High degree of water resistance
- Recommended for use in seams where water repellency is called for

Coats® Gral™ AST (anti-static)

- Made from continuous filament polyester in combination with a conducting material
- Specially designed to prevent static build-up in garments, footwear etc.
- Highly recommended for garments for electronic assembly line staff

COATS® OPTI™ ZIPS

- Opti™ M Firefly™ - flame retardant zip made up of 100% meta-aramid tape and metal elements. This zip gives outstanding permanent heat and flame protection up to 370°C. Opti™ M Firefly™ meta-aramid metal zips are tested and certified according to standards EN ISO 15025:2002, EN 469, EN ISO 11611, EN ISO 11612 and ISO EN 14116. They meet most of our customers' requirements for 20 washes as per BS 5651:1989 and also meet standards DIN 3416, 3418, 3419 and BSI 3084.
- Opti™ S Flame Master and Opti™ M Flame Master – textile tapes based on special molecular modified polyester, rendering permanent flame retardant properties.

COATS® SIGNAL™

Reflective and Flame Resistant Tapes and Heat Transfer Films

- Coat® Signal™ RD cotton is a flame resistant silver retro reflective tape for all types of flame resistant high visibility applications.
- Coats® Signal™ RD aramid is a premium flame resistant retro reflective tape designed for maximum heat and flame protection and tough industrial laundry conditions.
- Coats® Signal™ RD lime-silver-lime/orange-silver-orange are flame resistant aramid based reflective tapes that have combined retro reflective and fluorescent elements for maximum visibility at night time and during daytime and low light conditions.

COATS® CONNECT™

Hook and Loop

- Coats® Connect™ RD hook and loop fasteners are produced from 100% polyamide with flame resistant properties. They are designed for a broad range of industrial applications where flame protection is required and meet the requirements of key flammability standards.



COATS® PERFORMANCE WEAR

FOR WORKWEAR / UNIFORMS

Frequent and repeated industrial washing and the daily stress of performing under punishing conditions – you need Coats® threads and zips – **made to work.**



Coats® Dual™ Duty™

- Polyester corespun with cotton wrap
- Delivers excellent sewing performance in the most demanding applications
- High tenacity polyester filament core allows the use of finer thread sizes improving seam appearance without compromising seam strength
- Outstanding abrasion resistance for demanding workwear applications

Coats® Epic™

- Polyester corespun with polyester wrap sewing thread
- Ensures excellent stitch formation and good looking seam appearance
- Finished with a specially formulated lubricant delivering excellent sewing performance at low tension under the most demanding of conditions
- Stronger, more durable, with a high strength core which allows use of finer threads and needles without compromising strength compared to staple spun threads
- Excellent colour fastness performance level

Coats® Astra™

- Meets the highest environmental and safety standards and is 100% staplespun polyester
- Makes durable, long-lasting seams which look good throughout the sewn product lifetime
- Dependable sewing performance where cost matters
- High level of colour fastness

Technical Data -

North America, Canada, Mexico, Dominican Republic

| Coats® Threads and Engineered yarns for Performance Wear | Description | Tex. No. | Ticket No. | Average Strength (cN) | Elongation (%) Max | Recommended Needle Size (Singer) |
|--|---|--|------------|-----------------------|--------------------|----------------------------------|
| Coats® Firefly™ | Staple spun meta-aramid | 24 | 120 | 699 | 16-32 | 10-12 |
| | | 27 | 110 | 735 | 16-32 | 11-14 |
| | | 40 | 75 | 1285 | 25-37 | 12-14 |
| | | 60 | 50 | 1936 | 25-37 | 14-18 |
| | | 80 | 40 | 2601 | 25-37 | 16-19 |
| | | 90 | 35 | 2998 | 25-37 | 18-22 |
| Coats® Protos™ | Staple spun para-aramid | 45 | 70 | 5058 | 5 | 12-14 |
| | | 60 | 50 | 4800 | 5 | 14-18 |
| | | 80 | 40 | 5957 | 5 | 16-19 |
| | | 90 | 35 | 7246 | 5 | 18-22 |
| | | 105 | 30 | 8971 | 5 | 19-23 |
| Coats® Protos™ Fil | Continuous filament para-aramid | 90 | 35 | 15625 | 5 | 19-22 |
| | | 135 | 20 | 20893 | 5 | 21-23 |
| | | 350 | 9 | 49058 | 5 | 26-29 |
| Coats® Protos™ Steel | Special steel core and para-aramid wrap | 90 | 30 | 8500 | 6 | 120-140 |
| Coats® Helios™ C | Steel wires wrapped with a flame retardant cotton cover | 210 | 13 | 2700 | 16 | 130-160 |
| Coats® Helios™ K | Steel wires wrapped with a para-aramid cover | 210 | 13 | 6000 | 10 | 130-160 |
| Coats® Flamepro™ | Family of flame resistant, electric arc and cut resistant yarns | Offered in various fibres, blends and counts. Contact marketing@coats.com for more information | | | | |

Since conditions and applications vary considerably in the use of a product, the customer and/or user should assure herself or himself that the product meets end customer requirements and is suitable for the intended end use. Coats® accepts no liability for unsuitable or improper use or application of products.

Information provided above is based on current averages and should be taken only as indicative. Coats® accepts no liability for the preciseness and correctness of the information provided.

Product information sheets are updated from time to time, please be sure you are referring to the most recent publication. Coats® supports customers with advice on individual applications on request; if you have any questions or concerns, please contact us.

Technical Data - Europe, Asia, Middle East

| Coats Threads and Engineered yarns for Performance Wear | Description | Tex. No. | Ticket No. | Article Code | Length (m)* | Average Strength (cN) | Elongation (%) Max | Recommended Needle Size (metric) |
|---|---|----------|------------|--------------|-------------|-----------------------|--------------------|----------------------------------|
| Coats® Pyrostar™ | Long staple spun meta-aramid | 135 | 20 | SAD3020 | 1000 | 5800 | 17-27 | 130-160 |
| | | 70 | 40 | SAD5040 | 2500 | 2750 | 17-27 | 100-120 |
| | | 40 | 70 | SAD1070 | 5000 | 1600 | 16-26 | 90-100 |
| Coats® Firefly™ | Staple spun meta-aramid | 70 | 40 | 9600040 | 2500 | 2300 | 17-27 | 100-120 |
| | | 40 | 70 | 9700070 | 5000 | 1500 | 17-27 | 90-110 |
| | | 30 | 100 | 9700100 | 5000 | 1000 | 15-25 | 80-90 |
| Coats® Flame™ Master | Polyester covered core-spun permanent flame protection | 70 | 40 | 2392040 | 2500 | 3040 | 18-25 | 100-120 |
| | | 40 | 70 | 2395070 | 5000 | 1960 | 18-24 | 90-100 |
| Coats® Protos™ Plus | Longstaple spun para-aramid | 80 | 35 | SAE1035 | 3000 | 10600 | 3-5 | 110-130 |
| | | 60 | 50 | SAE5050 | 3000 | 8000 | 3-5 | 100-110 |
| | | 40 | 70 | SAE8070 | 5000 | 4900 | 3-5 | 90-100 |
| Coats® Protos™ Fil | Continuous filament para-aramid | 135 | 20 | SAE6020 | 2000 | 27000 | 3-5 | 130-160 |
| | | 90 | 30 | SAE7030 | 2500 | 18000 | 3-5 | 120-140 |
| Coats® Protos™ Steel | Special steel core and a para-aramid wrap | 90 | 30 | SZOK030 | 2000 | 8500 | 4-6 | 120-140 |
| Coats® Helios™ | Steel wires wrapped with a flame retardant cotton cover | 210 | 13 | 0900013 | 2000 | 2700 | 8-18 | 130-160 |
| | | 150 | 18 | 0900018 | 2000 | 2100 | 15-25 | 120-140 |
| Coats® Helios™ K | Steel wires wrapped with a para-aramid cover | 210 | 13 | 0639013 | 2000 | 6000 | 6-10 | 130-160 |
| Coats® Aptan™ | Continuous filament nylon | 70 | 40 | S054040 | 3000 | 4700 | 16-29 | 100-120 |
| | | 45 | 60 | S064060 | 6000 | 3210 | 18-32 | 90-100 |
| | | 35 | 80 | S066080 | 6000 | 2160 | 18-32 | 75-90 |
| Coats® Epic™ SIF | Polyester covered corespun free of silicone | 40 | 80 | 3045080 | 20000 | 1960 | 18-24 | 80-100 |
| | | 30 | 100 | 3047100 | 50000 | 1490 | 17-22 | 80-90 |
| Coats® Gral™ AW | Continuous filament polyester thread with a water repellent finish | 60 | 40 | 1420040 | 1000 | 4230 | 17-22 | 100-110 |
| | | 40 | 60 | 1420060 | 1000 | 2620 | 16-22 | 90-100 |
| | | 35 | 80 | 1420080 | 1000 | 2170 | 16-22 | 90-110 |
| Coats® Gral™ AST | Continuous filament polyester in combination with a conductive material | 135 | 20 | S2A2020 | 830 g | 7030 | 18-25 | 120-140 |
| | | 80 | 35 | 3450030 | 600 g | 5700 | 15-26 | 110-130 |
| | | 35 | 80 | S2A4080 | 4000 | 1800 | 15-26 | 80-100 |
| Coats® Dual™ Duty™ | Polyester corespun with cotton wrap | 60 | 50 | 1569050 | 5000 | 2840 | 18-24 | 100-120 |
| | | 40 | 75 | 1569075 | 5000 | 1860 | 18-24 | 90-100 |
| | | 24 | 120 | 1569120 | 5000 | 1040 | 18-22 | 75-90 |
| Coats® Epic™ | Polyester covered corespun | 60 | 50 | 2994050 | 5000 | 3040 | 18-25 | 100-120 |
| | | 40 | 80 | 2994080 | 5000 | 1960 | 18-24 | 75-90 |
| | | 30 | 100 | 2994100 | 5000 | 1490 | 17-22 | 75-90 |
| | | 24 | 120 | 2994120 | 5000 | 1190 | 17-22 | 70-90 |
| | | 21 | 150 | 2994150 | 5000 | 980 | 17-22 | 65-75 |
| Coats® Astra™ | Staple spun polyester | 40 | 80 | 8754080 | 5000 | 1410 | 13-20 | 75-90 |
| | | 27 | 120 | 8754120 | 5000 | 990 | 13-20 | 75-90 |

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