



## Coats Performance Wear





## About Coats

At Coats we have over 250 years of pioneering experience and are global leaders in industrial threads, zips, engineered yarns and trims, employing more than 20,000 employees in over 70 countries. We are proud of our tradition of landmark innovations in threads, zips, colour technology and manufacturing processes, many of which have become global industry standards. Our comprehensive range of products are designed to deliver the desired strength and performance characteristics

that make Coats' products the first choice for manufacturers of high quality textiles. Our product offer is supported by a suite of value added services to help customers improve efficiency, solve problems and train staff online or onsite. Coats' comprehensive product offer, worldwide network and established leadership in innovation and service make us your natural first choice for a truly global partner.

## Coats Performance Wear

- Performance Wear covers a wide variety of garments ranging from **protective clothing and work-wear to uniforms and gloves.**
- These garments are expected to perform in differing, demanding environmental conditions e.g. firemen's clothing, welder's coveralls, electrical utility overalls etc. They are also required to serve as a corporate brand enhancer e.g. airline uniforms, retail and catering industry employees.
- As a manufacturer of performance wear you need to ensure products have the durability to withstand the daily hostile environment while still providing comfort the wearer.
- New, innovative materials, such as meta-aramids or meta-aramid blends, have revolutionised the performance wear industry by delivering garments that offer improved functionality and durability coupled with better comfort.
- Coats is proud to present – **threads, engineered yarns and zips, trims and tapes for performance wear**, a comprehensive and cost-effective range of threads and zips that offer superior solutions for the manufacture of protective clothing, workwear and uniforms.
- Coats threads and zips are guaranteed to meet all the important Euro Norms and they deliver consistently 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
<b>For Protective Clothing</b>													
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 antisil (SIF)								★					
Coats Gral antiwick (AW)										★			
Coats Gral antistatic (AST)					★								
<b>For Workwear / Uniforms</b>													
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 can not 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 filament: 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 filament: 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 para-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 antisil (SIF)

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

### Coats Gral antiwick (AW)

- Made from continuous filament polyester with a water repellent 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 antistatic (AST)

- 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 FlameMaster and Opti M FlameMaster – the textile tapes are based on special molecular modified polyester, rendering permanent flame retardant properties.

## Coats Signal – Reflective and flame resistant

- Coat Signal FR Cotton is a flame resistant silver retro reflective tape for all types of flame resistant high visibility applications.
- Coats Signal FR Aramid is a premium flame resistant retro reflective tape designed for maximum heat and flame protection and tough industrial laundry conditions.
- Coats Signal FR Lime-Silver-Lime/Orange-Silver-Orange is a flame resistant aramid based reflective tape that has combined retro reflective and fluorescent elements for maximum visibility at night time and during daytime and low light conditions.

## Coats Connect – Hook & Loop tapes

- Coats Connect FR-hook and loop fasteners 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
- Coats Dual Duty combines the tenacity and strength of a polyester filament core with a cotton wrap, delivering excellent sewing performance
- Extensive colour range
- Certified to Öko-Tex Standard 100, class 1
- Excellent wash-down characteristics for Jeans
- Outstanding abrasion resistance for demanding work wear applications

### Coats Epic

- Polyester corespun with polyester wrap
- Coats Epic combines the high tenacity polyester filament core with a polyester wrap to make a versatile and reliable thread
- Specially lubricated to deliver outstanding sewing performance

- The high strength allows the use of finer thread size, giving better seam appearance without compromising seam strength
- Extensive colour range
- Certified to Öko-Tex Standard 100, class 1
- Excellent fastness properties – ideal for industrial washing processes
- Outstanding abrasion resistance for demanding workwear applications

### Coats Astra

- High tenacity 100% staplespun polyester
- Specially lubricated to deliver excellent sewing performance
- Wide range of colours at an affordable price
- Resistant to sunlight and chemical degradation
- Certified to Öko-Tex Standard 100, class 1
- Excellent fastness properties

## Coats Opti Zips

- Opti S – the strongest, slender, spiral zips manufactured using the unique 'S'-technology, the core of which is in one step production of the textile tape combined with only one weaving operation, where high quality fibres are interwoven whilst inserting the spiral.
- Opti M – metal zips manufactured using bead technology, where profile metal elements (teeth) are clamped on woven and dyed textile tape.
- Opti P – zips with plastic moulded teeth produced

casting under pressure of each separate tooth directly on the already woven and dyed textile tape. Teeth are injected on strictly defined intervals, depending on their size.

- P60 QR – can enable fast opening of a jacket or an outerwear zipped garment. The quick release zip is an important feature for clothing worn in risky or hazardous environments where, for example, a jacket needs to be taken off swiftly for administering first aid.

## Coats Signal – Reflective tapes

- Coats Signal products for industrial wash – premium quality retro reflective tapes designed for tough industrial laundry conditions – withstands more than 70 industrial laundry cycles including tunnel drying at

temperatures of up to 160°C.

- Coats Signal products for domestic wash – tapes and transfer film, both meet and exceed the requirements of key high visibility norms.

## Coats Connect – Hook & Loop tapes

- Coats Connect Standard – hook and loop fasteners in 100% polyamide woven fabric with latex free polyurethane coating designed for a multitude of applications in the apparel, footwear, furniture,

mattress, medical or automotive industries. Durability is assured for up to 10,000 opening and closings and they have excellent closure and horizontal strength.

## Technical Data – North America, Canada, Mexico, Dominican Republic

Coats Threads* 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	588	24	10-12
		27	110	735	26	11-14
		40	75	931	28	12-14
		60	50	1568	28	14-18
		80	40	2058	28	16-19
		90	35	2998	28	18-22
Coats Protos	Longstaple spun para-aramid	45	70	3773	5	12-14
		60	50	4800	5	14-18
		80	40	7105	5	16-19
		90	35	8428	5	18-22
		105	30	9776	5	19-23
Coats Protos Fil	Continuous filament para-aramid	90	35	18000	5	19-22
		135	20	27000	5	21-23
		350	9	60074	5	26-29
Coats Protos Steel	Special steel core and a 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 resistance yarns	Offered in various fibers, blend and counts. Contact <a href="mailto:marketing@coats.com">marketing@coats.com</a> for more information				

\*Needle size recommendations are a guide only and ultimately depend on the sewing application.

Since conditions and applications vary considerably in the use of the thread and yarn, Coats and its distributors can make no guarantee of results. These recommendations are given in good faith but without warranty or liability on the company or its employees. The thread and yarn user should assure herself or himself by preliminarily testing that the thread and yarn is suitable for the end use intended. Technical information listed above is based on current averages and should be taken only as indicative.



## Technical Data – Europe, Asia, Middle East

Coats Threads* for Performance Wear	Description	Tex No.	Ticket No.	Article Code	Length (m)*	Average Strength (cN)	Elongation (%) Min - Max	Recommended Needle Size (Nm)
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 corespun permanent flame protection	70	40	2392040	2500	3650	17-27	100-120
		40	70	2395070	5000	2400	15-25	90-110
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	900013	2000	2700	8-16	130-160
		150	18	900018	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	4704	16-29	100-120
		45	60	S064060	6000	3207	16-29	90-110
		35	80	S066080	6000	2161	15-26	90-110
Coats Epic SIF	Polyester covered corespun free of silicone	40	80	3045080	20000	1965	18-24	90-110
		30	100	3047100	50000	1490	17-22	75-90
Coats Gral AW	Continuous filament polyester thread with a water repellent finish	60	40	1420040	1000	4228	17-22	100-110
		40	60	1420060	1000	2622	16-22	90-100
		35	80	1420080	1000	2165	16-22	90-110
Coats Gral AST	Continuous filament polyester in combination with a conductive material	135	20	S2A2020	830 g	8360	17-25	140-160
		80	30	3450030	600 g	5194	16-23	110-130
		35	80	S2A4080	4000	2166	15-23	90-100
Coats Dual Duty	Polyester corespun with cotton wrap	60	50	1569050	5000	2842	18-22	100-120
		40	75	1569075	5000	1862	18-22	90-110
		24	120	1569120	5000	1039	18-22	70-90
Coats Epic	Polyester covered corespun	60	50	2994050	5000	3038	18-25	100-120
		40	80	2994080	5000	1965	18-25	90-110
		30	100	2994100	5000	1490	17-22	75-90
		24	120	2994120	5000	1186	17-22	70-90
		21	150	2994150	5000	980	17-22	65-75
Coats Astra	Staple spun polyester	40	80	8754080	5000	1408	13-20	90-110
		27	120	8754120	5000	924	13-20	75-90

\*Other lengths upon request

Since conditions and applications vary considerably in the use of the thread and yarn, Coats and its distributors can make no guarantee of results. These recommendations are given in good faith but without warranty or liability on the company or its employees. The thread and yarn user should assure herself or himself by preliminarily testing that the thread and yarn is suitable for the end use intended. Technical information listed above is based on current averages and should be taken only as indicative.