

Coats Gral Protect

Coats Gral Protect sewing thread is treated with an innovative process to give the finished thread anti-microbial / anti-fungal properties. The anti-microbial process creates a “zone of inhibition” that prevents the growth of bacteria and pathogens around sewn seams, where microbes like to harbour, leaving seam crevices clean and fresh.

The added value feature of anti-microbial protection is combined with the excellent sewing characteristics of this superior continuous filament polyester thread. Coats Gral Protect has low friction lubrication designed to withstand the effects of needle heat from sewing all types of leather and various other demanding materials. High breaking strength, suppleness and optimum stretch all help to produce quality seams with good appearance and excellent abrasion resistance.

Enhanced anti-microbial protection of seams can be achieved with Coats Gral Protect in many diverse applications.

COATS
gral



ANTI-MICROBIAL
CONTINUOUS
FILAMENT POLYESTER

WHY CHOOSE GRAL PROTECT?

- A high continuous filament polyester thread for excellent sewability, high strength and durability with the added benefit of anti-microbial properties
- High tenacity allows for optimum thread and needle size making fine seams possible
- Coats Gral Protect fights mould and mildew
- Inhibits bacteria that causes odour
- Coats Gral Protect has excellent abrasion resistance
- Coats Protect threads meet a number of recognised anti-bacteria and fungi test standards including: AATCC TM90 and ASTM M90 (microbiology activity), ASTM G21 and MIL-Std-810G (fungi), EN/ISO 20743 (anti-bacterial) and the Japanese SEK Blue Label accreditation
- Meets Coats restricted substance list

MAIN USES:

- Automotive seat belts and interiors
- Outdoor goods
- Upholstered furniture
- Geotextiles and technical textiles
- Footwear
- Handbags
- Leather accessories
- Quilting thread for mattresses and bedding
- Soft luggage
- Sports goods



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PRODUCT RANGE

TEX	Ticket	Length	Strength cN	Elongation % Min - Max	Needle Size Metric
40	60	4000m	2620	16 - 22	90 - 100
60	40	3000m	4230	17 - 22	100 - 110
80	30	3000m	5200	17 - 22	130 - 140
135	20	3000m	8360	18 - 24	140 - 160
180	15	1000m	11400	22 - 30	140 - 160
270	10	1000m	16630	20 - 34	160 - 200



THERMAL PROPERTIES

Melts at 260°C, softens at 220 - 240°C

Shrinkage less than 1% @ 150°C

CHEMICAL PROPERTIES

Mineral acids:	Resistant to most mineral acids
Alkalis:	Essentially unaffected by weak alkalis, but less resistant to stronger alkalis, especially at higher temperatures
Organic solvents:	Generally unaffected, but soluble in some phenolic compounds
Bleaching:	Unaffected
Insects / microorganisms (mildew, rot):	Unaffected
Laundering / dry cleaning:	Unaffected
Moisture regain:	0.4%

FASTNESS PROPERTIES

Washing at 60°C	(ISO 105 C10 C)	Grade 4
Water Fastness	(ISO 105 E01)	Grade 4
Rub Fastness	(ISO 105 X12)	Grade 4
Hypochlorite Fastness	(ISO 105 N01)	Grade 4
Dry Cleaning Fastness	(ISO 105 D01)	Grade 4
Perspiration Fastness	(ISO 105 E04)	Grade 4
Artificial Light Fastness	(ISO 105 B02)	Grade 4

These fastness grades represent minimum performance levels and, in practice, the majority of shades will exceed these levels.

Our sewing threads with the Coats Protect technology, have been tested to be effective up to 100 laundry wash cycles (per AATCC TM 150). Effectively this means the anti-microbial performance will endure for the lifetime of the product.



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EXPERT REAL WORLD SUPPORT

The final cost of any thread also includes hidden costs, fuelled by the methods and tools applied to it. Our experts know exactly how to reduce those costs, save time and increase productivity.



Seamworks

Install our Seamworks software to accurately calculate costs prior to production, putting an end to the risk of over or under ordering materials, and incurring unnecessary extra costs. The Seamworks tool is provided with installation, training and ongoing support included.



One to One Visits

There's no need to come to us, our experts will travel to your site. In person, online or via the phone, our trained consultants deal with the kind of issues any busy factory may face, providing a solution for today and a blueprint for future efficiency.



Training and Presentations

From thread selection to stitch formation, the use of colour to solutions for common production issues, we take the learning gathered through years of hands on experience and present it in the form of high impact seminars, workshops and presentations.



Embroidery Service Centre

Our Embroidery Service Centre makes embroidering a design much easier, increasing productivity at the same time as enhancing the design itself. Email the design and any problematic issues to us and our technicians will email the improved design right back.

To drive your hidden costs down, talk to Coats. From thread audits in pre-production to the latest technological bulletins, we'll provide support that achieves measurable results.

For more information, talk to your Coats representative today or visit [coats.com](https://www.coats.com)

OTHER PRODUCTS IN THE GRAL RANGE

To complement the Gral range, we also have a selection of specialist Gral threads. Each of these combines the superior properties of the Gral product with additional benefits specific to the end use.

Product Name	Description
Gral for Apparel	Lubricated continuous filament polyester for neat and attractive stitching.
Gral AS	Engineered for use as needle thread to prevent down migration during the sewing and lifetime of padded down jackets.
Gral AST Anti-static	Features a metallic conductive component which detracts electrical charge to prevent static build-up.
Gral AWF (Apparel Sizes)	Free of perfluorinated compounds (PFCs), best anti-wick thread choice for no-compromise, premium water-resistant outdoor wear and rainwear.
Gral AWF (Coarse Sizes)	Free of perfluorinated compounds (PFCs), best anti-wick thread for no-compromise, water-resistant outdoor footwear and accessories.
Gral Multicolour	An attractive and varied multicoloured continuous filament polyester sewing thread for eye-catching stitching.
Gral (Coarse Sizes)	High tenacity sewing thread with excellent abrasion resistance, ideal for sewing leather footwear.

Special use Gral products are typically available across a select range of ticket sizes and technical information will in some cases vary from the above table.



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