



PARAFIL[®]
The Ultimate Synthetic Rope



PARAFIL® ropes consist of a core of closely packed, high strength aramid or polyester fibres, lying parallel to each other, encased in a protective polymeric sheath.

This structure is combined with a specially designed termination technique.

The combination of these two technologies produces ropes of immense strength, capable of meeting the requirements of even the most complex application.

No other system matches its performance and PARAFIL® ropes are today used throughout the world in Catenary Support Systems, Urban Transport Systems and in Marine and Structural applications.

Its benefits, when compared to alternatives, include a high strength-to-weight ratio, excellent chemical resistance, high UV resistance, excellent fatigue characteristics and safety over a wide temperature range.

The method of manufacture produces a rope with a unique blend of physical and chemical characteristics.

A choice of combinations of strength, core fibre and sheath are available to meet the requirements of a wide variety of applications.





PARAFIL® FEATURES

- High tensile strength
- High strength to weight ratio
- Low weight
- Excellent tension-tension fatigue resistance
- Good insulating properties
- Resistant to UV degradation
- Virtually maintenance-free
- Unaffected by water, sea-water, ice and other extreme environmental conditions



PARAFIL® TYPES

There are three standard types of PARAFIL® available based on the type of fibre used for the core.

However, each of these is available with a choice of polymeric sheaths to suit varying applications.

These include a specially formulated polyethylene, which is suitable for most applications, an EVA copolymer that is more flexible and stress-crack resistant, and a polyester elastomer that offers higher resistance to heat and abrasion.

A flame retardant, cross linked polymer sheath is also available.

Yarn Type	Sheath Materials and Types			
	Polyethylene	Polyethylene	Polyester	Flame Retardant
	(LDPE)	Copolymer (EVA)	Elastomer (Hytrel)	Cross linked Polymer
High tenacity polyester	Type A	Type A (C)	Type A (H)	Type A (X)
Standard modulus Aramid	Type F	Type F (C)	Type F (H)	Type F (X)
High modulus Aramid	Type G	Type G (C)	Type G (H)	Type G (X)



PARAFIL® IN ACTION

INSULATING GUYS, CATENARIES AND SUPPORT SYSTEMS

The first applications for Parafil® ropes were in the antennae and electrical industries where they are used as insulating guys, catenaries and support systems where tensile and excellent insulating properties combined with resistance to UV radiation ensure a long and virtually maintenance-free life.

The use of Parafil® in these areas has now been extended across the world. In each instance tailor-made Parafil® ropes and specially designed terminations are produced to meet each customer's specific needs – no system is too complex for Parafil®.



These pictures are provided courtesy of ASCS Canadian Signal Corp and Thales Canada, Systems Division.

ROOF SUPPORT SYSTEMS

The physical and chemical characteristics of Parafil® also make it an ideal choice for roof support systems.



MARINE APPLICATIONS

Parafil® ropes have been used in marine applications including buoy moorings, ship and yacht rigging, guard rails and tow ropes etc, for over 20 years. Its tensile properties, low weight, freedom from corrosion and excellent tension-tension fatigue resistance make it the ideal choice.

The polyethylene sheath is unaffected by sea water and does not attract marine debris. When used in ship's rigging Parafil® is unaffected by sunlight and sea water and the smooth outer case ensures minimum build-up and easy release of ice.





URBAN TRANSPORT SYSTEMS

A natural evolution from the antennae and electrical, Parafil® ropes have been selected to support tram and trolley bus overhead conductors.

In terms of linear metres used, urban transport systems now represents one of the fastest growing markets for Parafil®.



PRE-STRESSING TENDONS

Parafil® has also proved its value in the construction industry where it has been used to repair concrete structures, including a large cooling tower that was repaired using 30 circumferential tendons of Type G Parafil® rope.

The high strength-to-weight ratio, excellent chemical, high UV and fatigue characteristics and safety over a wide temperature range make Parafil® an excellent choice for use as external, unbounded pre-stressing tendons in concrete beams.



STRUCTURAL APPLICATIONS

The high strength-to-weight ratio together with high modulus, low extension and good tension-to-tension fatigue life make Parafil® an attractive material for many structural applications.

It was used in a 'fully synthetic', cable-stay bridge spanning the River Tay at the Aberfeldy golf course in Scotland and has also been selected for a revolutionary tank bridge developed by BAE Systems Land Systems (Bridging) Limited.



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PARAFIL® SERVICE

PARAFIL® Ropes are manufactured by Linear Composites, an acknowledged world leader in this field.

The company has unparalleled experience in developing and refining applications for PARAFIL® in association with customers and distributors.

Linear Composites specialists work closely with customers and designers to ensure that the ideal PARAFIL® solution is provided for each application.