

SIGRAFLEX® continuous filament graphite rayon yarns

High-performance graphite yarns for high-end braided packings

To cover the many different braided packing applications SGL Carbon offers a wide variety of SIGRAFLEX graphite rayon yarns. Our portfolio contains rayon yarns with either 8 or 17 plies and different coatings and coating contents serving not only to aid the braiding process but also enhance the ultimate sealability while reducing frictional heat. Available coatings include graphite, PTFE, and graphite/PTFE combinations. In addition, we also provide high-purity graphite coatings for nuclear and military applications*.

Properties

SGL Carbon's SIGRAFLEX graphite rayon yarns are characterized by their very high degree of purity and outstanding chemical resistance.

Other main properties are:

- High thermal conductivity
- Suitable for pH range 1-14
- Enhanced oxidation resistance
- High temperature resistance up to 450 °C (842 °F)
- Good tensile strength
- Low modulus
- Smooth surface, very soft compliant yarn
- Optimum yarn when minimum coating is required
- Low friction characteristics

* Should you be looking for technical data of our SIGRAFLEX yarn grades suitable for nuclear and military applications please refer to our separate technical data sheet containing those grades or contact us directly.

Applications

SIGRAFLEX graphite rayon yarns are especially suitable for applications requiring extended service life, low abrasion, excellent leakage control and reduced packing maintenance.

- Rotary pump packing
- High speed pump applications
- Pulp and paper
- Petrochemical processes
- Power generation



↑ SIGRAFLEX® continuous filament graphite rayon yarn with graphite coating

Material data of SIGRAFLEX® twisted graphite continuous filament rayon yarns graphite or graphite/PTFE coating¹⁾

Typical values of yarn grade²⁾

Properties	Test methods	Units	GRC06S08TG15	GRC14S17TG15	GRC06S08GR10	GRC14S17GR10
			GRC06Z08TG15	GRC14Z17TG15	GRC06Z08GR10	GRC14Z17GR10
Coating			Graphite/PTFE	Graphite/PTFE	Graphite	Graphite
Coating content	ASTM D1907	%	15	15	10	10
Carbon content ³⁾	ASTM D5373	%	99.5	99.5	99.5	99.5
Ash content ³⁾	ASTM C561	%	0.3	0.3	0.3	0.3
Moisture content	ASTM C562	%	0.5	0.5	0.5	0.5
Density	ASTM D3800	g/cm ³	1.49	1.49	1.43	1.42
Linear weight	ASTM D1907	g/m	0.6	1.4	0.6	1.4
Break strength	ASTM D2256	kg [lb]	11 [25]	23 [50]	11 [25]	23 [50]
Twist	ASTM D1423	TPI (TPM)	1.7 [67]	1.5 [59]	1.9 [75]	1.5 [59]
# of plies			8	17	8	17

Material data of SIGRAFLEX® twisted graphite continuous filament rayon yarns PTFE coating¹⁾

Typical values of yarn grade²⁾

Properties	Test methods	Units	GRC06S08TF05	GRC14S17TF05	GRC06S08TF15	GRC14S17TF15
			GRC06Z08TF05	GRC14Z17TF05	GRC06Z08TF15	GRC14Z17TF15
Coating			PTFE	PTFE	PTFE	PTFE
Coating content	ASTM D1907	%	5	5	15	15
Carbon content ³⁾	ASTM D5373	%	99.5	99.5	99.5	99.5
Ash content ³⁾	ASTM C561	%	0.3	0.3	0.3	0.3
Moisture content	ASTM C562	%	0.5	0.5	0.5	0.5
Density	ASTM D3800	g/cm ³	1.44	1.45	1.47	1.48
Linear weight	ASTM D1907	g/m	0.6	1.4	0.6	1.4
Break strength	ASTM D2256	kg [lb]	11 [25]	23 [50]	11 [25]	23 [50]
Twist	ASTM D1423	TPI (TPM)	1.8 [71]	1.4 [55]	1.8 [71]	1.5 [59]
# of plies			8	17	8	17

¹⁾ Each grade is available in S (clockwise) and Z (counter-clockwise) twist.

²⁾ Values are non-binding and nominal unless stated otherwise. They may be subject to change and do not constitute an actual specification value.

³⁾ Base yarn without coating.



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TDS graphite rayons yarns.00

12 2019/0 Printed in Germany

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