

SIGRAFLEX® continuous filament carbon PAN yarns

Carbon textile yarns for high-performance compression packings

The SIGRAFLEX continuous filament carbon PAN yarn portfolio offered by SGL Carbon is very comprehensive. It ranges from yarns with different weights and twists to various coatings and coating contents.

Applications

End users in the refining, petrochemical, chemical, and pulp and paper industries as well as in power generation benefit from the unique properties of SIGRAFLEX carbon PAN yarns.

Properties

SIGRAFLEX carbon PAN yarns allow the braider to produce a high-performance compression packing with excellent properties.

- Outstanding strength and toughness allowing for producing of robust packings
- High temperature and oxidation resistance
- Excellent chemical resistance, suitable for pH range 2 – 12
- Low coefficient of friction
- Excellent resistance to abrasive media
- High thermal conductivity



↑ SIGRAFLEX continuous filament carbon PAN yarn

Material data of SIGRAFLEX® twisted continuous filament carbon PAN yarns with PTFE coating¹⁾

Typical values of yarn grade

Properties	Test methods	Units	CPC16S01TF15	CPC08S01TF15	CPC09S01TF15	CPC08S01TF20	CPC16S01TF20	CPC08S01TF30
			CPC16Z01TF15	CPC08Z01TF15	+ Alloy601 CPC09Z01TF15 + Alloy601	CPC08Z01TF20	CPC16Z01TF20	CPC08Z01TF30
Coating			PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
Coating content	ASTM D1907	%	15	15	15	20	20	30
Carbon content ²⁾	ASTM D5373	%	94	94	94	94	94	94
Moisture content	ASTM C562	%	0.1	0.1	0.1	0.1	0.1	0.1
Break strength	ASTM D2256	kg [lb]	68 [150]	45 [100]	45 [100]	45 [100]	68 [150]	45 [100]
Density	ASTM D3800	g/cm ³	1.8	1.8	2.0	1.8	1.9	1.9
Linear weight	ASTM D1907	g/m	2.0	1.0	1.1	1.0	2.1	1.2
Base yarn weight	ASTM D1907	g/m	1.6	0.8	0.9 ³⁾	0.8	1.6	0.8
Twist	ASTM D1423	TPI (TPM)	1.2 [47]	1.2 [47]	1.2 [47]	1.1 [43]	1.2 [47]	1.1 [43]
Available twists			S, Z	S, Z	S, Z	S, Z	S, Z	S, Z
# of plies			1	1	1	1	1	1

Material data of SIGRAFLEX® continuous filament carbon PAN yarns with graphite/PTFE coating¹⁾

Properties	Test methods	Units	Typical values of yarn grade					
			CPC08S01TG15	CPC04S01TG45	CPC08R01TG45	CPC08S01TG45	CPC16R01TG45	CPC16S01TG45
			CPC08Z01TG15	CPC04Z01TG45		CPC08Z01TG45		CPC16Z01TG45
Coating			Graphite/PTFE	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE
Coating content	ASTM D1907	%	15	45	45	45	45	45
Carbon content ²⁾	ASTM D5373	%	94	94	94	94	94	94
Moisture content	ASTM C562	%	0.1	0.1	0.1	0.1	0.1	0.1
Break strength	ASTM D2256	kg (lb)	45 [100]	23 [50]	45 [100]	45 [100]	68 [150]	68 [150]
Density	ASTM D3800	g/cm ³	1.8	1.9	1.9	1.9	1.9	1.9
Linear weight	ASTM D1907	g/m	1.0	0.7	1.4	1.4	2.9	2.8
Base yarn weight	ASTM D1907	g/m	0.8	0.4	0.8	0.8	1.6	1.6
Twist	ASTM D1423	TPI (TPM)	1.4 [55]	1.4 [55]		1.1 [43]		1.1 [43]
Available twists			S, Z	S, Z	[ribbon]	S, Z	[ribbon]	S, Z
# of plies			1	1	1	1	1	1

Material data of SIGRAFLEX® twisted continuous filament carbon PAN yarns with graphite coating¹⁾

Properties	Test methods	Units	Typical values of yarn grade	
			CPC08S01GR10	CPC16S01GR10
			CPC08Z01GR10	CPC16Z01GR10
Coating			Graphite	Graphite
Coating content	ASTM D1907	%	10	10
Carbon content ²⁾	ASTM D5373	%	94	94
Moisture content	ASTM C562	%	0.1	0.1
Break strength	ASTM D2256	kg (lb)	68 [150]	68 [150]
Density	ASTM D3800	g/cm ³	1.7	1.7
Linear weight	ASTM D1907	g/m	0.9	1.8
Base yarn weight	ASTM D1907	g/m	0.8	1.6
Twist	ASTM D1423	TPI (TPM)	1.2 [47]	1.2 [47]
Available twists			S, Z	S, Z
# of plies			1	1

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

²⁾ Base yarn without coating.

³⁾ Weight of base yarn and Inconel wire.

Alloy 601 is more commonly known as Inconel® 601 which is a registered trademark of Huntington Alloys Corp.

Other yarn weights/sizes and coating contents are available on request. Please contact us.

Unless stated otherwise, all values are measured in accordance with referenced test methods, typical, non-binding and nominal. They may be subject to change and do not constitute an actual specification value. For engineering or design purposes please contact our technical sales team.



Additional information on our SIGRAFLEX sealing materials can be found in the "Download Center" on our homepage.

www.sigraflex.com/downloads



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