

SIGRAFLEX® foil yarns

Reinforced graphite foil yarns for high temperature, oxidation and corrosion resistant compression packings

SIGRAFLEX foil yarns are based on SIGRAFLEX flexible graphite foil maintaining the excellent characteristics of the base materials. The foil manufactured from expanded natural graphite is a homogeneous material free of adhesives and binders. It is overknitted with a corrosion resistant Inconel® wire providing superior strength and pliability as well as pressure and extrusion resistance. Therefore, SIGRAFLEX foil yarns meet today's stringent performance requirements.

Properties

- High temperature and oxidation resistance
- Excellent chemical resistance
- High purity
- Superior strength and pliability
- High flexibility and resilience

Material data of SIGRAFLEX reinforced flexible graphite foil yarns

Typical properties	Test methods	Units	GFK03-01UC00-APX2 + Inconel	GFK05-01UC00-APX2 + Inconel	GFK03-01UC00-Z + Inconel
			SIGRAFLEX APX2® yarn	SIGRAFLEX Z yarn	
Base material			SIGRAFLEX APX2 foil	SIGRAFLEX Z foil	
Reinforcement ¹⁾			Inconel 601	Inconel 601	
Carbon content ²⁾	ASTM D5373	%	≥ 98	≥ 99.85	
Ash content ²⁾	ASTM C561	%	≤ 2	≤ 0.15	
Moisture content ¹⁾	ASTM C562	%	< 0.5	< 1	
Sulfur content ²⁾	ASTM D4239	ppm	< 300	< 300	
Chloride content ²⁾	ASTM D4327	ppm	≤ 25	≤ 10	
Fluoride content ²⁾	ASTM D4327	ppm	≤ 10	≤ 10	
Halogen content ²⁾	ASTM D4327	ppm	≤ 70	≤ 40	
Linear weight ²⁾	ASTM D1907	g/m	3 or 5	3	
Bulk density ³⁾	ASTM C559	g/cm ³ (lb/ft ³)	1.12 [70]	1.00 [62.4]	
Break strength	ASTM D2256	kg (lb)	8 [18]	8 [18]	
Weight loss in air (4 h at 670 °C) ³⁾	ASTM D7582 LECO TGA	%/h	≤ 1	≤ 4	

¹⁾ Reinforcement diameter: 100 µm, content: 3 g/m yarn 35%, 5 g/m 26% ²⁾ Graphite only ³⁾ Property of graphite precursor material Inconel® is a registered trademark of Specials Metals Corp.

Other grades 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.



Graphite Materials & Systems | SGL CARBON GmbH | SGL Technic LLC
 Sales Europe/Middle East/Africa | sigraflex-europe@sglcarbon.com
 Sales Americas | sigraflex-americas@sglcarbon.com
 Sales Asia/Pacific | sigraflex-asia@sglcarbon.com
 www.sigraflex.com | www.sglcarbon.com

TDS foil yarns.01

11 2020/0 1NÄ Printed in Germany
 ®registered trademarks of SGL Carbon SE

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should therefore not be construed as guaranteeing specific properties of the products described or their suitability for a particular application. Any existing industrial property rights must be observed. The quality of our products is guaranteed under our "General Conditions of Sale".

