

# Supagraf® S10X

High temperature / high pressure laminated  
graphite high grade sealing system

**Supagraf® S10X is a  
highly oxidation resistant  
multipurpose high strength  
graphite laminate combining  
high quality flexible  
graphite with stainless  
steel reinforcement.**

#### Application guidelines

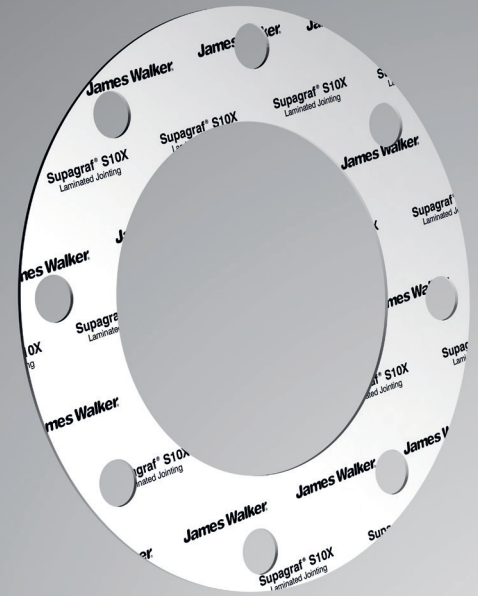
- Piping flange gaskets, heat exchangers, boilers, reactors, vessels and OEM equipment.
- Compatible with HP steam, hydrocarbons and a wide range of chemicals within HPI and CPI industries.
- High pressures (up to 50 bar).
- Suitable for ASME, EN, JIS, DIN flanges.

#### Features & Benefits

- High grade graphite  $\geq 98\%$  carbon content.
- 316L stainless steel core with adhesive laminating system.
- Suitable up to ASME Class 300 or PN40 piping applications.
- Suitable for high gasket stress applications.
- Available in thicknesses from 0.55 mm to 3.0 mm.
- Sheet size of 1500 x 1500 mm. Gaskets can be produced up to a diameter of 1500 mm in one piece.

#### Notes

The operational life span of graphite at high temperatures might be limited due to media or environmental influences. For continuous exposure in oxidising environments above  $+450^{\circ}\text{C}$  consult with James Walker's Technical function.



#### TEMPERATURE

**Maximum Temperature:** (see notes section)

**$+500^{\circ}\text{C}$  ( $+932^{\circ}\text{F}$ )**

**Minimum Temperature:**

**$-196^{\circ}\text{C}$  ( $-321^{\circ}\text{F}$ )**



#### PRESSURE

**Maximum Pressure:**

**5 MPa/50 bar (750 psi)**



# Supagraf®

## S10X

High temperature / high pressure laminated  
graphite high grade sealing system

Typical material properties							
Thickness	mm	0.55	0.75	1.0	1.5	2.0	3.0
Bulk density	g/cm <sup>3</sup>	1.0	1.0	1.0	1.0	1.0	1.0
Number of steel layers		1	1	1	1	1	1
ASTM material number		316L	316L	316L	316L	316L	316L
Steel thickness	mm	0.05	0.05	0.05	0.05	0.05	0.05
Carbon content	%	≥ 98	≥ 98	≥ 98	≥ 98	≥ 98	≥ 98
Ash content	%	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
Compressibility (ASTM F36)	%	40	40	40	40	40	40
Recovery at 20°C (ASTM F36)	%	12	12	12	12	12	12
Hot Creep at 300°C	%	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
Total sulphur	ppm	< 750	< 750	< 750	< 750	< 750	< 750
Total chloride	ppm	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
Total halogen	ppm	≤ 310	≤ 310	≤ 310	≤ 310	≤ 310	≤ 310
Total fluorine	ppm	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Oxidation rate in air @ 670°C (1238°F) TGA	% / Hr	≤ 4.0	≤ 4.0	≤ 4.0	≤ 4.0	≤ 4.0	≤ 4.0
ASME design factor 'm'		2.0	2.0	2.0	2.0	2.0	2.0
ASME design factor 'y'	MPa	10.34	10.34	10.34	10.34	10.34	10.34

# James Walker Worldwide

## Australia

**T:** +61 2 9721 9500  
**E:** sales.jwau@jameswalker.biz

## Belgium

**T:** +32 3 820 79 00  
**E:** sales.be@jameswalker.biz

## Brazil

**T:** +55 11 4392 7360  
**E:** sales.br@jameswalker.biz

## China

**T:** +86 21 6876 9351  
**E:** sales.cn@jameswalker.biz

## France

**T:** +33 437 49 74 80  
**E:** sales.fr@jameswalker.biz

## Germany

**T:** +49 4038 60810  
**E:** sales.de@jameswalker.biz

## India

**T:** +91 224 0808080  
**E:** sales.in@jameswalker.biz

## Ireland

**T:** +353 214 323626  
**E:** sales.ie@jameswalker.biz

## Italy

**T:** +39 2 2578308  
**E:** sales.it@jameswalker.biz

## Middle East

**T:** +971 481 78888  
**E:** sales.jwme@jameswalker.biz

## Netherlands

**T:** +31 186 633111  
**E:** sales.nl@jameswalker.biz

## New Zealand

**T:** +64 9 272 1599  
**E:** sales.nz@jameswalker.biz

## Norway

**T:** +47 22 75 75 00  
**E:** sales.no@jameswalker.biz

## Singapore

**T:** +65 6715 6300  
**E:** sales.sg@jameswalker.biz

## South Africa

**T:** +27 31 304 0770  
**E:** sales.za@jameswalker.biz

## Spain & Portugal

**T:** +34 94 447 00 99  
**E:** sales.es@jameswalker.biz

## UK

**T:** +44 1270 536000  
**E:** sales.uk@jameswalker.biz

## USA

**T:** +1 708 754 4020  
**E:** sales.jwna.us@jameswalker.biz

Information given in this publication is given in good faith and represents the results of specific individual tests carried out by James Walker or third parties in accordance with the methodologies described in this publication, performed in a laboratory. No representation or warranty is given in relation to such information. Values and/or operating limits given in this publication are not an indication that these values and/or operating limits can be applied simultaneously. While such results may comprise useful additional information and are industry standard tests, they are no substitute for conducting (or procuring from James Walker) your own tests and engineering analysis and satisfying yourself as to the suitability of the product you select. Please also note that a product tested in accordance with the published methodology may not perform to such values in application and/or under different test conditions or methodologies for a variety of reasons, including but not limited to the environment in which it is used/tested or which passes through it or otherwise affects the product, or due to the handling, storage or installation, or due to the effect of housing or other parts. Our personnel will be happy to discuss any historical examples we have of a product having been previously used in a particular application.

To ensure you are working with the very latest product specifications, please consult the relevant section of the James Walker website: [www.jameswalker.biz](http://www.jameswalker.biz).

## James Walker Sealing Products & Services Ltd

Registered Office: Lion House, Oriental Road,  
Woking, Surrey GU22 8AP, United Kingdom.

Reg no: 00264191 England