

# Fluolion® 200



## Virgin expanded PTFE

**Fluolion® 200 is 100% pure virgin multi-directionally expanded PTFE sheet material.**

### Application guidelines

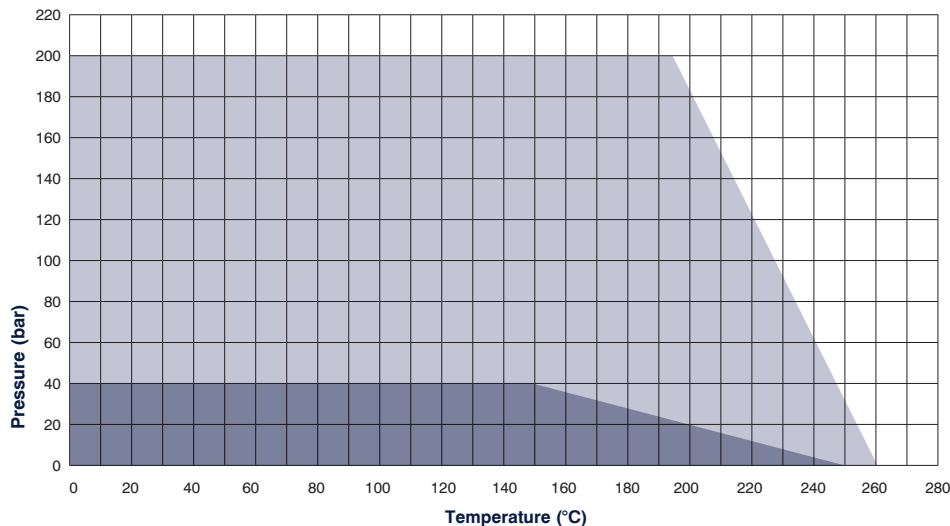
Fluolion 200 is suitable for use on most flange types including all standard flange designs and covers a wide range of media and temperatures. The multidirectional expansion of Fluolion 200 produces exceptional mechanical strength allowing operation with minimal creep at elevated temperatures.

The conformability of the Fluolion 200 material allows the material to be used on flanges with small areas of minor damage and/or irregularities.

Fluolion 200 is inherently clean and non-toxic and complies with FDA regulations for food and it is physiologically harmless.

For more detailed information regarding chemical compatibility, it is recommended that the James Walker Chemical Compatibility Guide or our technical team is consulted, particularly for extremely aggressive media.

\*3rd party tested and validated by James Walker for use in hydrogen service.



### Pressure versus temperature capability graph

The Pressure x Temperature graph indicates the service limits considering the simultaneous influence of temperature and pressure. The darker shaded area represents the normal safe limitation for the combinations of temperature and pressure. It is recommended that, for all applications falling outside the darker shaded area, you seek guidance from James Walker to assess the suitability of the material in your specific application. Sealed media may influence the service limits in a specific application. Please contact James Walker for confirmation of suitability.



### TEMPERATURE

**Maximum Temperature:**

+260°C (+500°F)

**Minimum Temperature:**

Cryogenic and below



### PRESSURE

**Maximum Pressure:**

20 MPa/200 bar (2900 psi)



### CHEMICAL COMPATIBILITY

pH 0-14

### APPROVALS

Shell MESG SPE 85/300 - 3.3.2

(EC) Nr. 1935/2004

(EC) No. 2023/2006

(EU) No. 10/2011

U.S. FDA 21 CFR 177.1550

### Virgin expanded PTFE

#### Typical physical properties

Property	Test method	Parameters	Typical physical property
Colour	-	-	White
Compressibility	ASTM F36M	34.5 MPa	> 45%
Recovery	ASTM F36M	34.5 MPa	> 10%
Tensile strength	ASTM F152	-	> 20 MPa (2900 psi)
Creep relaxation	ASTM F38	100°C (212°F)	≤ 22%
Residual stress	DIN 52913	-	> 15 MPa

#### Typical performance

Leakage rate	DIN 3535-6	N <sub>2</sub> , 40bar	< 0.01ml/minute
Specific leakage rate	VDI 2440 / TA Luft	-	8.0 x 10 <sup>-7</sup> mbar.l/(s.m)

#### Gasket factors according to DIN28090-2

Compression εKSW	DIN 28090-2	RT	35% - 40%
Creep relaxation εKSW	DIN 28090-2	RT	> 3%
Compression εKSW	DIN 28090-2	Elevated temperature	< 15%

#### ASME gasket factors

	3.0 mm thick
Gasket factor "m"	2
Minimum gasket stress "y"	19.3 MPa (2800 psi)

#### Availability

Sheet size	Thickness
1500 mm x 1500 mm	0.5 mm, 1.0 mm, 1.5 mm, 2.0 mm, 3.0 mm, 4.0 mm, 5.0 mm, 6.0 mm

Statements of compliance to regulations for food and pharmaceutical use are available on the James Walker website.

# Fluolion®

## 700



Structured PTFE filled  
with glass microspheres

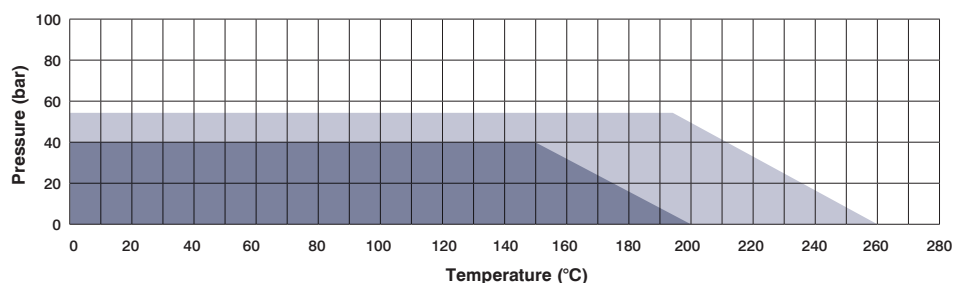
**Fluolion® 700 is a structured virgin PTFE filled with hollow glass microspheres. The sheets are manufactured by a unique process which overcomes the creep relaxation and cold flow problems typically associated with skived PTFE sheets and gaskets.**

### Application guidelines

Fluolion 700 is suitable for use in a wide variety of aggressive media including acids, caustics, hydrocarbons, refrigerants, solvents, steam and water. The high compressibility of Fluolion 700 makes this material suitable for applications requiring a lower stress gasket such as plastic, glass and ceramic flanges.

For more detailed information regarding chemical compatibility, it is recommended that the James Walker Chemical Compatibility Guide or our technical team is consulted, especially for extreme aggressive media.

3rd party tested and validated by James Walker for use in hydrogen service.



### Pressure versus temperature capability graph

The Pressure x Temperature graph indicates the service limits considering the simultaneous influence of temperature and pressure. The darker shaded area represents the normal safe limitation for the combinations of temperature and pressure. It is recommended that, for all applications falling outside the darker shaded area, you seek guidance from James Walker to assess the suitability of the material in your specific application. Sealed media may influence the service limits in a specific application. Please contact James Walker for confirmation of suitability.



### TEMPERATURE

**Maximum Temperature:**  
+260°C (+500°F)

**Minimum Temperature:**  
Cryogenic and below



### PRESSURE

**Maximum Pressure:**  
5.5 MPa/55 bar (797 psi)



### CHEMICAL COMPATIBILITY

pH 0-14

### APPROVALS

Shell MESG SPE 85/300 - 3.3.2  
(EC) Nr. 1935/2004  
(EC) No. 2023/2006  
(EU) No. 10/2011  
U.S. FDA 21 CFR 170.39

# Fluolion<sup>®</sup>

## 700

### Structured PTFE filled with glass microspheres

#### Typical physical properties

Property	Test method	Parameters	Typical physical property
Colour	-	-	Blue
Compressibility	ASTM F36M	34.5 MPa	25% - 40%
Recovery	ASTM F36M	34.5 MPa	30%
Tensile strength	ASTM F152	-	14 MPa (2030 psi)
Creep relaxation	ASTM F38	100°C (212°F)	40%
Residual stress	DIN 52913	-	15 MPa (2175 psi)

#### Typical performance

Leakage rate	DIN 3535-6	N <sub>2</sub> , 40bar	< 0.01ml/minute
Specific leakage rate	VDI 2440 / TA Luft	-	3.70 x 10 <sup>-6</sup> mbar.l/(s.m)

Gasket factors according to DIN28090-2			
Compression εKSW	DIN 28090-2	RT	>10%
Creep relaxation εKSW	DIN 28090-2	RT	> 4%
Compression εKSW	DIN 28090-2	Elevated temperature	< 40%

ASME gasket factors		
	1.5 mm thick	3.0 mm thick
Gasket factor "m"	2	2
Minimum gasket stress "y"	10.3 MPa (1500 psi)	10.3 MPa (1500 psi)

#### Availability

Sheet size	Thickness
1200 mm x 1200 mm	1.0 mm
1500 mm x 1500 mm	1.5 mm, 2.0 mm, 3.0 mm, 4.8 mm, 6.4 mm

Statements of compliance to regulations for food and pharmaceutical use are available on the James Walker website.

# Fluolion<sup>®</sup>

## 800



Structured PTFE filled with barium sulphate

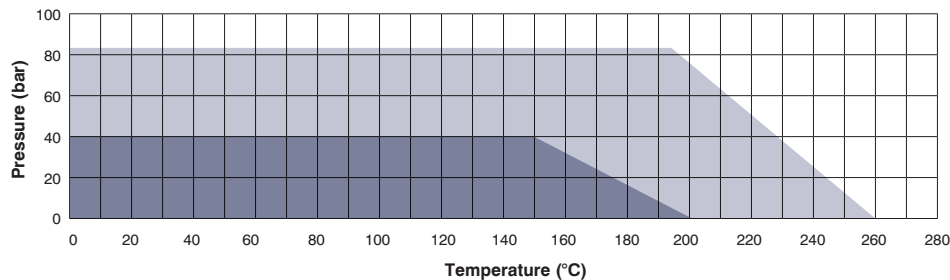
**Fluolion<sup>®</sup> 800 is a structured virgin PTFE filled with barium sulphate. The sheets are manufactured by a unique process which overcomes the creep relaxation and cold flow problems typically associated with skived PTFE sheets and gaskets.**

### Application guidelines

Fluolion 800 is a universal gasket sheet material suitable for use in a wide variety of aggressive media including most acids, caustics, hydrocarbons, refrigerants, solvents, steam and water. Fluolion 800 is suitable for applications with the toughest demands on purity.

For more detailed information regarding chemical compatibility, it is recommended that the James Walker Chemical Compatibility Guide or our technical team is consulted, particularly for extremely aggressive media.

3rd party tested and validated by James Walker for use in hydrogen service.



### Pressure versus temperature capability graph

The Pressure x Temperature graph indicates the service limits considering the simultaneous influence of temperature and pressure. The darker shaded area represents the normal safe limitation for the combinations of temperature and pressure. It is recommended that, for all applications falling outside the darker shaded area, you seek guidance from James Walker to assess the suitability of the material in your specific application. Sealed media may influence the service limits in a specific application. Please contact James Walker for confirmation of suitability.



### TEMPERATURE

**Maximum Temperature:**  
+260°C (+500°F)

**Minimum Temperature:**  
Cryogenic and below



### PRESSURE

**Maximum Pressure:**  
8.3 MPa/83 bar (1203 psi)



### CHEMICAL COMPATIBILITY

pH 0-14

### APPROVALS

Shell MESC SPE 85/300 - 3.3.2  
(EC) Nr. 1935/2004  
(EC) No. 2023/2006  
(EU) No. 10/2011  
U.S. FDA 21 CFR 170.39

### Structured PTFE filled with barium sulphate

#### Typical physical properties

Property	Test method	Parameters	Typical physical property
Colour	-	-	Off -white (no dye)
Compressibility	ASTM F36M	34.5 MPa	4% - 10%
Recovery	ASTM F36M	34.5 MPa	40%
Tensile strength	ASTM F152	-	14 MPa (2030 psi)
Creep relaxation	ASTM F38	100°C (212°F)	24%
Residual stress	DIN 52913	-	16 MPa (2320 psi)

#### Typical performance

Leakage rate	DIN 3535-6	N <sub>2</sub> , 40bar	< 0.01ml/minute
Specific leakage rate	VDI 2440 / TA Luft	-	5.90 x 10 <sup>-7</sup> mbar.l/(s.m)

#### Gasket factors according to DIN28090-2

Compression εKSW	DIN 28090-2	RT	> 1.5%
Creep relaxation εKSW	DIN 28090-2	RT	> 0.5%
Compression εKSW	DIN 28090-2	Elevated temperature	< 30%

#### ASME gasket factors

	1.5 mm thick	3.0 mm thick
Gasket factor "m"	2	2
Minimum gasket stress "y"	12.4 MPa (1800 psi)	10.3 MPa (1500 psi)

#### Availability

Sheet size	Thickness
1200 mm x 1000 mm	1.0 mm
1500 mm x 1500 mm	1.5 mm, 2.0 mm, 3.0 mm

Statements of compliance to regulations for food and pharmaceutical use are available on the James Walker website.

# Fluolion<sup>®</sup>

## 900



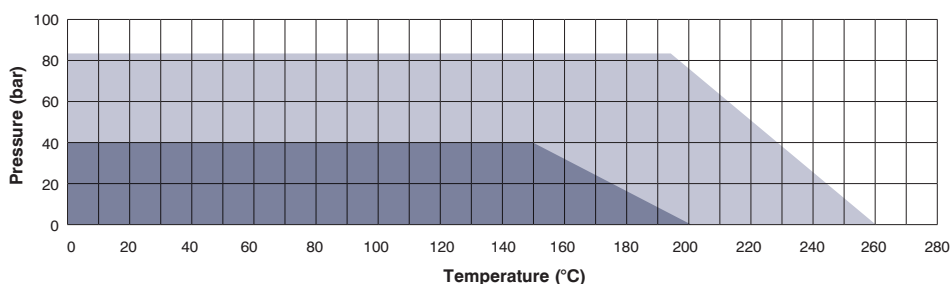
## Structured PTFE filled with silica

**Fluolion<sup>®</sup> 900 is a structured virgin PTFE filled with silica. The sheets are manufactured by a unique process which overcomes the creep relaxation and cold flow problems typically associated with skived PTFE sheets and gaskets.**

### Application guidelines

Fluolion 900 is suitable for use in applications found in chemical processing and hydrocarbon plants. Fluolion 900 is suitable for use in strong acids (except hydrofluoric), solvents, hydrocarbons, water, steam and chlorine. For more detailed information regarding chemical compatibility, it is recommended that the James Walker Chemical Compatibility Guide or our technical team is consulted, particularly for extremely aggressive media.

\* 3rd party tested and validated by James Walker for use in hydrogen service.



### Pressure versus temperature capability graph

The Pressure x Temperature graph indicates the service limits considering the simultaneous influence of temperature and pressure. The darker shaded area represents the normal safe limitation for the combinations of temperature and pressure. It is recommended that, for all applications falling outside the darker shaded area, you seek guidance from James Walker to assess the suitability of the material in your specific application. Sealed media may influence the service limits in a specific application. Please contact James Walker for confirmation of suitability.



### TEMPERATURE

**Maximum Temperature:**  
+260°C (+500°F)

**Minimum Temperature:**  
Cryogenic and below



### PRESSURE

**Maximum Pressure:**  
8.3 MPa/83 bar (1203 psi)



### CHEMICAL COMPATIBILITY

pH 0-14

### APPROVALS

Shell MESC SPE 85/300 - 3.3.2  
(EC) Nr. 1935/2004  
(EC) No. 2023/2006  
(EU) No. 10/2011  
U.S. FDA 21 CFR 170.39

### Structured PTFE filled with silica

#### Typical physical properties

Property	Test method	Parameters	Typical physical property
Colour	-	-	Beige
Compressibility	ASTM F36M	34.5 MPa	5% - 10%
Recovery	ASTM F36M	34.5 MPa	40%
Tensile strength	ASTM F152	-	14 MPa (2030 psi)
Creep relaxation	ASTM F38	100°C (212°F)	18%
Residual stress	DIN 52913	-	16 MPa (2320 psi)

#### Typical performance

Leakage rate	DIN 3535-6	N <sub>2</sub> , 40bar	< 0.01ml/minute
Specific leakage rate	VDI 2440 / TA Luft	-	1.1 x 10 <sup>-6</sup> mbar.l/(s.m)

#### Gasket factors according to DIN28090-2

Compression εKSW	DIN 28090-2	RT	> 1.5%
Creep relaxation εKSW	DIN 28090-2	RT	> 0.5%
Compression εKSW	DIN 28090-2	Elevated temperature	< 20%

#### ASME gasket factors

	1.5 mm thick	3.0 mm thick
Gasket factor "m"	4.4	3.5
Minimum gasket stress "y"	15.9 MPa (2300 psi)	17.2 MPa (2500 psi)

#### Availability

Sheet size	Thickness
1200 mm x 1200 mm	1.0 mm
1500 mm x 1500 mm	1.5 mm, 2.0 mm, 3.0 mm

Statements of compliance to regulations for food and pharmaceutical use are available on the James Walker website.

# dobson gaskets

E Dobson and Co [Gaskets] Ltd  
Unit 1 Holme Mill Ind Estate  
Fell Lane, Keighley  
West Yorkshire, BD22 6BN



**NEED ADVICE?**

**TALK TO A TECHNICIAN**

Our highly experienced technicians can advise you on the best sheet materials and manufacturing processes for a wide range of gasket applications.

**TEL: (+44) 01535 607257**

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