



# Product information

## 'VAC-SIL EXTREME®'

### SILICONE / ETHYLENE RUBBER SHEETING

#### J-FLEX 'Vac-Sil Extreme®' Physical Properties

Property	Value	Test Method
COLOUR:	Dark Grey or Yellow	
HARDNESS:	67 Shore A (+/-5)	ASTM D2240 DIN 53505
TENSILE STRENGTH:	≥15 Mpa	BSISO 37 DIN 53505 die S1 ASTM D412 Die C
ELONGATION:	≥550%	BSISO 37 DIN 53504 die S1 ASTM D412 Die C
SPECIFIC GRAVITY: (DENSITY)	1.20 (+/-0.5) g/cm <sup>3</sup>	ISO 2781 BS 903 A5
TEAR STRENGTH:	40 N/mm	BS ISO 34-1 method C ASTM D 624 B
RESILIENCE:	50%	ASTM D1054 / D2632
LINEAR SHRINKAGE:	2.5%	
TEMPERATURE RANGE:	-40 / +180°C	
POST CURED:	5 Hours @ 175°C	

For information about Corrosive Attack on Silicone Diaphragms – please see reverse side

**Limited Warranty:** For a period of 6 months from date of first sale, J-Flex warrants this product(s) to be free from defects in manufacturing. Our obligation will be to provide replacement product for any portion proving defective.

**Disclaimer:** The information contained in this document describes the features of the J-flex product(s) as tested in a laboratory environment at a temperature of 23°C at 50% relative humidity (i.e. standard test procedures). It does not necessarily reflect the conditions of industrial use and it does not guarantee the product to be suitable for certain applications or life cycle length.

Issue 2

Vac-Sil® is a Registered Trademark of J-Flex Rubber Products

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Check out the download area of our website  
[www.j-flex.co.uk](http://www.j-flex.co.uk) for other product information



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## Corrosive attack on Silicone Diaphragms

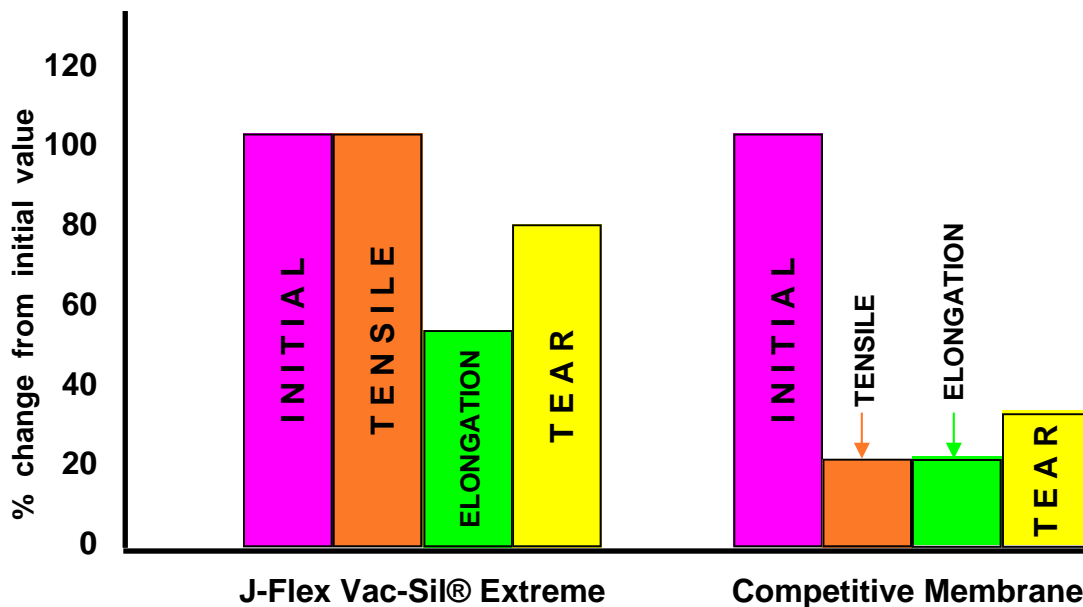
World-wide producers of thin film and crystalline solar panels face corrosive attacks on Silicone Diaphragms used on lamination equipment.

During the lamination / encapsulation process of EVA volatile outgassing occurs. Outgassing refers to unwanted chemicals that are usually a bi-product of the process and temperature. These acidic fumes are emitted from adhesive or other components and can lead to corrosion of the Diaphragms. This corrosion manifests itself in surface degradation (cracks) + excessive stretching and sagging.

J-FLEX 'Vac-Sil® Extreme' is a hybrid material that resists the deterioration caused by EVA outgassing. In addition J-FLEX 'Vac-Sil® Extreme' is a really tough material with both tensile strength and tear resistance higher than traditional Diaphragm materials.

J-FLEX 'Vac-Sil® Extreme' has very tight elongation features – resistant to excessive stretching and sagging. Customers feedback indicates that J-FLEX 'Vac-Sil® Extreme' may give up to 50% longer life than some traditional Diaphragm materials – obviously dependent upon type of module, encapsulant and conditions.

## E.V.A. RESISTANCE IN ACCELERATED LAB. TESTS



**Test Methodology:** Membrane sample placed in chamber in close contact to EVA Sheet. Exposed for 4 hours at 249°C. Hardness, tensile, elongation and tear strength properties of membrane tested before and after exposure.