



P O L Y M A X L T D  
Building 90, SEME, Budds Lane  
Bordon, Hampshire, GU35 0JE, UK  
Tel: + 44 (0) 1420 474123  
Fax: + 44 (0) 1420 487816  
E-mail: [sales@polymax.co.uk](mailto:sales@polymax.co.uk)  
Web: [www.polymax.co.uk](http://www.polymax.co.uk)

# **Technical Specification For** **Polymax SILONA FDA Approved** **Silicone Sheeting**

## **Product Form**

Polymax SILONA FDA approved silicone sheeting is available as solid and sponge sheeting, with or without self adhesive backing and can be manufactured into gasket or bespoke formats (please ask an advisor).

## **Applications**

Silona FDA is the preferred choice of medical, pharmaceutical and food processing industries or anywhere that requires a 'clean room' application. FDA approval means it has been tested and approved by the Food & Drug Administration. It can be used in applications where contact with food is a primary factor, as well as some medical applications.

## **Thermal Properties**

Works in the temperature range of -60°C to 200°C. Can be used at 230°C intermittently.

## **Chemical Composition**

Contains only ingredients that are listed by the Food and Drugs Administration (FDA) under the 21 CFR number 177-2600

**[The FDA statement can be found by clicking HERE](#)**

## **Flammability Characteristics**

Meets flammability requirements of Federal Aviation Regulations (FAR) 25/JAR 25/CS 25 Appendix F, Part 1, (a)(1)(iv) and (a)(1)(v) horizontal flammability tests.

### **Moisture Absorption**

The range has a very low degree of moisture absorption. Mechanical properties show little change even after long periods of immersion.

### **Pigmentation**

Available as standard in white, black, grey, blue, red and translucent. Other colours also available on request.

### **Environmental Resistance**

Has increased the standard qualities of silicone rubber products including excellent resistance to ozone, oxidation, ultraviolet light, corona discharge, cosmic radiation, ionizing radiation and weathering in general.

### **Mechanical Properties**

The FDA approved silicone sheeting comes as standard in Shore A hardness 60 and is also available in 40, 50 and 70 Shore A hardness (Available on request).

Property	Units	FDA 60		FDA 40		Test Method
		Spec Limits	Typical Value	Spec Limits	Typical Value	
Hardness	Shore A	60 ±5	62	40 ±5	40	ASTM D2240 DIN 53505
Tensile Strength	MPa	5.5 min	10.5	4.0 min	11.1	BSISO 37 DIN 5305 die S1 ASTM D412 die C
	Psi	795 min	1523	580 min	1610	
Elongation to Failure	%	250 min	360	300 min	550	BSISO 37 DIN 52504 die S1 ASTM D412 die C
Tear Strength	N/mm	10.0 min	14.7	8.0 min	14.0	ASTM D624 die B
	Lb/inch	57.0 min	83.9	46.0 min	79.9	
Compression Set 24hrs @ 150°C	%	30 max	17	35 max	22	BS 903 pt A6 type B DIN 53517 type II
Compression Set 22hrs @ 300°F	%	30 max	15	35 max	21	ASTM D395 method B type 2

Property	Units	FDA 70		FDA 50		Test Method
		Spec Limits	Typical Value	Spec Limits	Typical Value	
Hardness	Shore A	70 ±5	70	50 ±5	54	ASTM D2240 DIN 53505
Tensile Strength	MPa	5.5 min	7.63	5.5 min	11.2	BSISO 37 DIN 5305 die S1 ASTM D412 die C
	Psi	795 min	1106	795 min	1624	
Elongation to Failure	%	200 min	269	250 min	480	BSISO 37 DIN 52504 die S1 ASTM D412 die C
Tear Strength	N/mm	12.0 min	12.2	10.0 min	14.5	ASTM D624 die B
	Lb/inch	68.5 min	69.7	57.0 min	82.8	
Compression Set 24hrs @ 150°C	%	30 max	25	35 max	23	BS 903 pt A6 type B DIN 53517 type II
Compression Set 22hrs @ 300°F	%	30 max	22	35 max	24	ASTM D395 method B type 2

## General Characteristics

Test	Result	Standard
Brittle Point	-80°C	ASTM D746
Limiting Oxygen Index	24.0 %	BS 2872 Part 1
Thermal Conductivity	0.24 W.m <sup>-1</sup> .K <sup>-1</sup>	VDE 0304
Radiation Resistance	>10 <sup>5</sup> Grays (10 <sup>7</sup> Rads) typical	
Dielectric Strength	23 kV.mm <sup>-1</sup>	VDE 0303
Dielectric Constant	2.9	VDE 0303
Dissipation Factor @ 50c/s	3x10 <sup>-4</sup>	VDE 0303
Volume Resistance	3x10 <sup>15</sup> Ω.cm	VDE 0303