

Fujipoly Data Sheet

SARCON® XR-Um series

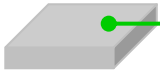
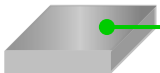
Highest Thermally Conductive Extremely Compressible Gap Filler Type

FEATURES

Highest Thermally Conductive and Non-Flammable interface materials.

SARCON® Highest Thermally Conductive Putty Type is a customer friendly material due to its easy application by printing. The material's putty nature greatly contributes to reduction of contact resistance and consequently to its low thermal resistance. Then this material has a flame retardancy of UL 94 V-0 and a very Low Molecular Siloxane content. Putty-AL type has one surface with aluminum film.

CONSTRUCTIONS

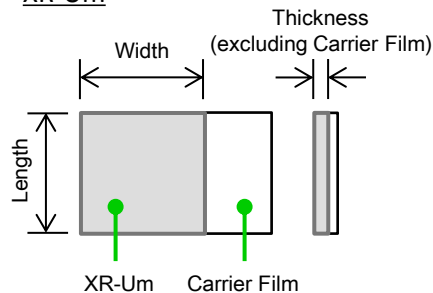
Series	Characteristics	Constructions
SARCON® XR-Um	Silicone compound with double sticky surfaces and Thermal Conductivity of XR-v material is 17.0W/m-K by using ASTM D5470 modified* ¹ (11.0W/m-K by using Hot Disk)	 Plain Type
SARCON® XR-Um-Al	Silicone compound as above XR-Um plus 10μ m Aluminum Film, which enables users to remove the carrier film after installation (before operation) with no-pull-out effect	 Aluminium Film

*1) Thermal Conductivity ; Measured by using ASTM D5470 modified, refer to Fujipoly Test method FTM P-3030.

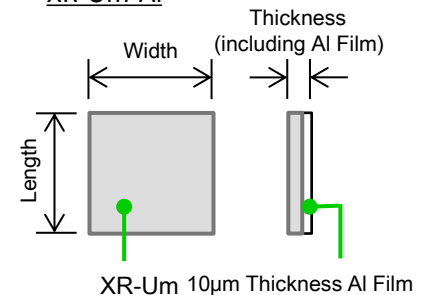
XR-Um / XR-Um-Al

Item	Size (mm)	Tolerance (mm)
Width	15.0 to 50.0	±1.5
Length	15.0 to 50.0	±1.0
Thickness	20X-Um 0.22	±0.04
	30X-Um 0.30	±0.06
	40X-Um 0.40	±0.08
	50X-Um 0.50	±0.10

XR-Um



XR-Um-Al



THERMAL RESISTANCE

Unit : K-cm²/W (K-in²/W)

Compression Force	20X-Um	30X-Um	40X-Um	50X-Um	20X-Um-Al	30X-Um-Al	40X-Um-Al	50X-Um-Al
100kPa /14.5psi	0.2 (0.02)	0.2 (0.03)	0.3 (0.05)	0.4 (0.06)	0.3 (0.04)	0.4 (0.05)	0.4 (0.07)	0.5 (0.08)
300kPa /43.5psi	0.1 (0.02)	0.2 (0.03)	0.3 (0.04)	0.3 (0.05)	0.3 (0.04)	0.3 (0.04)	0.3 (0.05)	0.4 (0.06)
500kPa /72.5psi	0.1 (0.02)	0.2 (0.02)	0.3 (0.04)	0.3 (0.04)	0.2 (0.03)	0.3 (0.04)	0.3 (0.05)	0.3 (0.05)

Test method: Fujipoly Test method, FTM-P3050 by TIM Tester 1300 which is ASTM D5470 equivalent

- Specimen Area; DIA.33.0mm (1.30in)

TYPICAL PROPERTIES

Properties		unit		XR-Um		Test method	Specimen	
Physical Properties	Color	-		Light Gray		Visual	-	
	Specific Gravity	-		3.2		ASTM D792	A	
Electrical Properties	Dielectric Constant	-	50Hz	9.49		ASTM D150	A	
			1kHz	8.19				
			1MHz	7.71				
	Dissipation Factor	-	50Hz	0.1800		ASTM D150	A	
			1kHz	0.0516				
			1MHz	0.0047				
Thermal Properties	Thermal Conductivity	W/m-K		17.0 by ASTM D5470		ASTM D5470 ^{*1}	-	
				11.0 by Hot Disk		ISO/CD 22007-2		
	Useful Temperature	°C (°F)		-40to+150 (-40to+302)		-	-	
	Low molecular Siloxane	wt%		D ₄ to D ₂₀ Total	0.0010 or less		Gas Chromatographic	-
	Flame Retardant	-		V-0 ^{*2}		UL 94	-	

• Specimen A: 2mmT

*1) Thermal Conductivity ; Measured by using ASTM D5470 modified, refer to Fujipoly Test method FTM P-3030.

*2) XR-Um-AI : V-0 equivalent

DURABILITY

Unit : K-cm²/W

Test Property	Specimen	120°C				150°C			
		Initial	250hrs	500hrs	1,000hrs	Initial	250hrs	500hrs	1,000hrs
Thermal Resistance	20X-Um	0.20	0.17	0.19	0.21	0.20	0.26	0.26	0.26
	40X-Um	0.29	0.30	0.30	0.30	0.29	0.31	0.35	0.37

Test Property	Specimen	85°C/85%RH				-40°C(30min)⇔+125°C(30min)			
		Initial	250hrs	500hrs	1,000hrs	Initial	250hrs	500hrs	1,000hrs
Thermal Resistance	20X-Um	0.20	0.20	0.22	0.22	0.20	0.18	0.19	0.19
	40X-Um	0.29	0.28	0.28	0.30	0.29	0.29	0.28	0.31

• Thermal Resistance ; Measured by using ASTM D5470 modified, refer to Fujipoly Test method FTM P-3030.

• Specimen Area; 15mm square

• Specimen is sandwiched between aluminum blocks.

reduced temperature

-40°C = -40°F

85°C = 185°F

120°C = 248°F

125°C = 257°F

150°C = 302°F

HANDLING METHOD for XR-Um series

Step-1



• Peel the product with Carrier Film off from PET Film

Step-2



• Apply onto Heat Sink

Step-3



• Roll twice on the film to attach to heat sink

Step-4



• Peel off instantly the PET film to horizontal direction

HANDLING NOTES

- It is recommended to compress the material with the equal ratio on the whole surface. Partial excessive stress may also result in excessive silicone oil exudation.

WARRANTY STATEMENT

- Fujipoly has been utilizing Hot Disk method and TIM Tester method since Fujipoly defined them as Fujipoly standard.
- Properties of the products may be revised due to some changes for improving performance.
- Fujipoly Test method FTM-P3030 based on ASTM D5470 and ASTM C177 (GHP) method.
- Properties values in this document are not specification or guaranteed.
- This product is made of silicone, and silicone oil may exude from the product.
- This product is made of silicone, and low molecular siloxane may vaporize depending on operating conditions.
- The product is designed, developed, and manufactured for general industrial use only. Never use for medical, surgical, and/or relating purposes. Never use for the purpose of implantation and/or other purposes by which a part of or whole product remains in human body.
- Before using, a safety must be evaluated and verified by the purchaser.
- Contents described in the document do not guarantee the performances and qualities required for the purchaser's specific purposes. The purchaser is responsible for pre-testing the product under the purchaser's specific conditions and for verifying the expected performances.
- Statements concerning possible or suggested uses made herein may not be relied upon, or be constructed, as a guaranty of no patent infringement.
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